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☞ ALL correspondence, communications and contributions intended for publication should be addressed to the "Editor of the AMERICAN RAILROAD JOURNAL." Business letters, subscriptions, orders for copies and advertisements should be sent to the "AMERICAN RAILROAD JOURNAL CO."

WE invite railroad officers to send us notice of elections, transfers, appointments, resignations, etc.; and all our readers would oblige us by furnishing us with any items of news which may come to their knowledge, and are of a suitable nature for our columns. It is our intention to publish weekly full and accurate information regarding those enterprises and industries to which the AMERICAN RAILROAD JOURNAL is devoted, and to effect this end we solicit the co-operation of readers interested therein. We aim specially to record all new railway enterprises in the United States and Canada, and to note the progress of construction on all new roads and extensions; and we request those concerned in railway building to give us early information concerning the above, that our reports may be as complete as possible.

Correspondence and contributed articles are also requested for our special departments devoted to Finance, Commerce, Street Railways, and New Inventions. All communications should bear the name and address of the writer, not necessarily for publication, but to insure the editor's attention.

RELATIVE SPEED OF AMERICAN RAILWAY TRAINS.

IT is commonly thought that American railways are behind those of other countries in the question of speed, and a belief prevails that English trains are much more rapid than our own. It is difficult to see just why this statement has been circulated and gained general credence, for the truth is far different. American railway trains maintain a higher rate of speed in long distances than those of any other country. English trains, it is true, in running short distances, do eclipse the speed made in this country, but this speed is not maintained in long journeys. There is one train running between Liverpool and Manchester, a distance of about thrty-five miles, which accomplishes the journey in a little less than half an hour, showing an average speed of seventy-five miles an hour for that distance, but there is no case where an English railway can equal our best time on long distances. So far as the trains upon Continental railways are concerned, the same holds true to even a greater extent. In France there are some express trains which maintain a moderately high rate of speed, but the ordinary time made upon French railways is much slower than upon American. The railways of Germany run their trains with exceeding deliberation and in Italy they are abominably slow. The railway system of Russia, though of late making great advances, is as yet but in its infancy, and no just comparison in this respect may be made.

An analysis of the facts as above stated shows that American railways lead those of all other countries in speed on long distances, but falls behind many in short trips between adjacent town and cities. Our railways show wonderful zeal and energy in reducing the time of express trains between New York and Chicago or between other cities of importance equally distant from each other, but are singularly indifferent as to the time made between points in close proximity. We confess the reason for this one-sided progressiveness is not clearly apparent to us. It may safely be presumed that the majority of passengers traveling between far distant points determined upon performing the journey some time before, and have made their preparations accordingly. While they are justified in demanding that they be carried to their destinations with allreasonable dispatch, the occasions are comparatively rare when the difference of an hour or two can be of any vital importance, for in calculating upon long journeys all travelers will make allowances for detentions and delays, and are fully prepared to meet with a loss of time. No such allowance is ordinarily made in traveling short distances, and these journeys are frequently performed at quick notice and under circumstances that render every moment of the utmosst importance. With these facts in view we cannot see the justice of sacrificing the time of local trains to facilitate the increase of speed upon fast mails and expresses. Many railways in this country will keep a local train upon a siding for half an hour in order that an express train that has been delayed may have a clear track on which to redeem the lost time; and so common has this custom become upon roads maintaining an extensive through traffic, that the local train schedules are wholly unreliable. Passengers are compelled to wait irrespective of the time tables and the cases are numerous where intended connection with boats and trains at their destinations are missed inconsequence.

Far be it from our intention to discourage the running of fast express trains which in a country of such vast extent as America, are an absolute necessity; but there is no reason why the comfort and convenience of local travelers should be disregarded in order to accomplish this end. Fast trains are generally the outgrowth of rivaly between competiting roads and a little of this spirit of competition

might be exercised in reducing the time between adjacent points. In this respect we might follow the example of English railways to some extent and make a special feature of rapid trains between places in close proximity to each other, while the same speed could be maintained upon through trains as before. Such an accomplishment might be more difficult in this country than in England, for there the greatest distances between points on railways is very small compared to those upon our roads where miles are reckoned by thousands, but the energy and progressiveness of our railway managers should not be daunted by the problem. The maintenance of a high rate of speed upon all trains can be accomplished with perfect safety by the exercise of care and watchfulness, and there is no reason why one class of passengers should be benefitted at the expense of another. The increase of the facilities and conveniences of local travel results in an increase of population in adjacent towns, forming a steady and reliable source of income to the railway companies, while a neglect of these facilities will, as we said a week or two ago, discourage the growth of places that are adapted for the residence of persons doing business in the central cities.

THE FATHER OF THE RACE.

VISITORS at the Chicago Railway Exposition may be attracted by the display of surprising inventions, they may be dazed by the vastness of the exhibits and the number of appliances for the furtherance of improvements in railway travel, but the center of attraction, the one spot toward which the feet of antiquarians will turn, is that corner of the exhibits of old curiosities, where GEORGE STEPHENSON'S "Rocket" will be displayed. This venerable relic, the first practical locomotive ever produced, will bear the same relation to the exposition that the bones of Adam would to an ethnological collection. It is the father of the locomotive race, and it represents the indomitable energy of one man, who in the face of every discouragement and obstacle, revolutionized the traveling methods of the world in less than a quarter of a century.

There are few persons now alive who have seen the "Rocket" in actual travel, but it has for years been the object of the greatest veneration and curiosity at the South Kensington Museum in London, the directors of which have kindly loaned it to the American Exposition, and the name of the engine has been a familiar word to almost every school boy. It is difficult to imagine a locomotive whose weight was less than five tons, with a cylindrical boiler but six feet in length, and three in diameter, yet such was the "Rocket," constructed by STEPHENSON in competition for the £500 prize on the Liverpool and Manchester Railway. The directors fixed upon these limits of dimension, and the "Rocket" carried off the prize. Nor were its performances by any means contemptible in comparison with those of the ponderous locomotives of the present day, for the little "Rocket," when subsequently improved, could maintain a speed of thirty miles an hour, and it was many years before this rate was excelled.

The history of railway progress does not present an unimpeded march to triumph. The elder STEPHENSON and his son Robert, fought for the carrying out of their ideas with the persistency of an early Christian marytr. Bitterly opposed by the railways themselves, who clung with tenacious fondness to horse traction they proceeded in the face of threats and discouragements that would have daunted men of ordinary pluck and courage. The old coach companies were their relentless foes. Rich landlords and their powerful tenantry foresaw the demolition of their farm lands, and called upon Parliament to protect their rights. The wierd uncanny engines flying past in clouds of smoke and steam aroused the dread and superstition of the lower classes, and a universal terror prevailed at the thought of the general introduction of steam railways. The passenger coaches upon the early railways of England continued to be drawn by horses, for no traveler of those times would have deemed himself safe behind a mysterious engine which could propel itself and a train of cars, and the first locomotives were devoted exclusively to the transportation of coal and freight. So universal was the prejudice against the introduction of locomotives that the committee of the Liverpool and Manchester Railway could only obtain their charter upon pledging themselves not to ask for any clause empowering them to use locomotives upon their road, and as late as 1829, the charter of the Newcastle and Carlisle Railway was only granted upon the express condition that its cars should be drawn by horses only.

Nothing daunted, STEPHENSON threw his soul into the task before him, and fought his measures through Parliament until the steam railway became the leading avenue of English travel. It is related of him, and the anecdote illustrates the rugged energy of the inventor, that when a committee from the House of Commons on the subject of railway were interviewing him, one of their number propounded this question: "Mr. STEPHENSON, would it not be an awkward thing for an engine to run over a cow?" "Yes," answered the blunt inventor, in his dry Northumbian dialect, "it would be very awkward for the coo." This "Father of Railways," as he has been aptly called, lived to see his country netted with iron rails, and was himself honored with the homage of the British nation, while his son, Robert, a worthy descendant of his illustrious father, followed in the latter's footsteps, and accomplished the greatest engineering feat of his day in devising and constructing the Victoria Bridge at Montreal, the vast structure spanning the rapid waters of the St. Lawrence from the Canadian metropolis to the opposite shore. Both father and son were workmen in the truest sense. They did not content themselves with forming theories for others to work upon, but lent their personal aid to the actual work of construction. The elder for months almost lived upon horseback supervising the laying of tracks on the railways he had been instrumental in forming, and every drawing and specification were perfected by his own hands.

It is especially fitting that at the approaching exposition where the display of railway appliances will exceed anything hitherto produced, the first fruits of GEORGE STEPHENSON'S labors should be given the place of honor, and that the pioneer locomotive in all its simplicity should stand in close proximity to its legitimate descendant, the locomotive of the present day with its wonderful completeness and intricacy. In our News Department this week will be found a note concerning the progress of the exposition in which mention is made of the appearance of the "Rocket," and in our next issue we shall describe more fully the department of "Old Curiosities." Old and curious as may be the displays in this section of the exposition, they show but the legitimate growth of railway improvement during the last half century, and if in 1933 another exposition of railway appliances should be held, the locomotives and railway mechanism of the present day would present as marked a contrast to those of that period, and seem as uncouth and primitive as will STEPHENSON'S "Rocket" and the other curiosities at the Chicago display. For this reason we urge the permanence of the organization now superintending the exposition, with a view to reproducing it at intervals of a few years, thus showing the gradual growth of railway improvements, and affording inventors an opportunity to study the defects in the prevailing appliances and the immediate and pressing needs of our railway system. To us the system may now seem perfect but there is no limit to its ulterior improvement, and in fifty years the change will be so great that

the Stephensons of the present day will scarcely be able to discover the traces of their handiwork. By all means let the National Railway Exposition be a permanent institution, and a perpetual incentive to the production and perfection of new railway appliances and improvements.

THE FUTURE FIELD FOR RAILWAY CONSTRUCTION.

A GLANCE at a perfect railway map of the United States reveals the fact that railway facilities are quite abreast of the settlement and population of the country—especially in the new States and Territories. There are already more railways to the Pacific coast, completed or to be completed within the year, than the through business requires. When the traffic between the Pacific ports and the East shall have been cut into four parts by the completion of the Atlantic and Pacific, and later the Northern Pacific, the proportion belonging to each one will be small. In all probability, to prevent ruinous competition, the through business will have to be pooled, with an actual division of the tonnage, allowing passengers to select such route as they may prefer. It is true the western portion of each of the three southern-most lines is controlled in the main by the same owners, and undoubtedly their influence will be used to maintain remunerative rates. Were it not that each of these lines has gathered about it local industries, either of mining, grazing or agriculture, which will in time justify the construction, their prospect would be indeed dismal. The Northern Pacific, too, has at its two extremes a country well adapted to the growth of cerials; and at the western end valuable resources in timber and coal. Recent discoveries go to show that the Texas and Pacific, and the Atlantic and Pacific have also valuable coal-beds near their routes in New Mexico and Arizona, which will not only insure a carriage of large quantities for fuel, but also the cheaper operation of those roads.

What has been doing in reference to the Pacific railways has been done in reference to other localities. We have already three roads between New York and Buffalo, with a fourth (the Lehigh Valley) available for freight. The New York, West Shore and Buffalo is rapidly gaining headway, and will in the course of another year furnish a fifth line. At the same time, the Philadelphia and Reading and the Central of New Jersey are combining to establish an independent line to Pittsburgh in the West, and via Baltimore to the South and West. Three, and perhaps four, roads are nearing completion between Cincinnati, Louisville and New Orleans. Three lines are nearly completed between St. Louis and Galveston. Three lines are in operation between Chicago and Kansas City, and five lines between Chicago and Council Bluffs. There are five lines, also, between Chicago and St. Paul, each of which is pushing further into the Northwest. The question arises: Is not the business overdone? Can the country sustain so many parallel roads? When Mr. VANDERBILT indirectly purchased the New York, Chicago and St. Louis Railway at a profit to the builders of some $7,000,000 on an outlay of $11,000,000, it was foreseen that great damage had been done to all railway property. If five per cent of the market value of railway stocks had been struck from all the railways in the country the injury would not have been more serious. The business of building railways to sell to railways, and not because of the demands from ordinary business, received direct encouragement which bodes ill to the future of railway business. As the largest owner of railway property in America it was Mr. VANDERBILT's duty to have fought his would-be rivals to the uttermost—or rather, true policy would have dictated that he should make his own roads and appointments the most perfect in the world, and so have made competition hopeless. That policy would have been equivalent to a notification to all interlopers that they embarked in the business of paralleling established roads at their own peril, and had only to expect a fight until one or the other of the parties was bankrupt.

Looking over the field of railway development, there remains no considerable area of fertile country within the United States domains which is not already sufficiently provided with railways, or in a near way of being so furnished. The filling up of branch feeding lines of existing systems is all that is left to do. American enterprise cannot push very far into Canadian territory, being barred by regions of perennial ice and snow. On the South, however, is the great Republic of Mexico, with abundance of good soil, a genial climate, running streams, mines of precious metals, and every element except that of an enterprising population and stable government, to encourage railways. The advent of railways will not only ensure a more compact political organization, but also inspire the native Mexicans with greater enterprise. The two conditions go together—for of what use is it to raise crops if they cannot be sent to market at a profit; and of what use is the profit if the laws cannot guarantee the possession and enjoyment of the property.

The present development of railways in Mexico is being watched attentively by all civilized nations. Now that the United States has set the example, Europe is quick to follow it; and already England, France, Germany and Italy are pouring in capital and merchandise into that country. Twenty years will so revolutionize the face of Mexico that its old inhabitants will scarcely recognize it.

EDITORIAL NOTES.

Two of our editorial articles published within the past fortnight have provoked replies which will be found in the columns of Correspondence. One is a reply to an editorial in last week's issue, which contrasted the English and American railway systems. We appreciate the courtesy of tone this correspondent assumes and admit the truth of his remarks, but we cannot see that he has disproved our claim to general superiority for the American system, nor contradicted the leading points of the article in question. In regard to the comparative speed of English and American railway trains, we can best answer his argument by referring to the leader this week entitled "Relative Speed of American Railway Trains." Our other correspondent objects to a brief note we made on the subject of smoking cars. This gentleman is not altogether fair, although much that he says is true. According to the tenor of the latter part of his communication, we should suppose that it is his wish to do away with smoking cars altogether because he and others do not smoke. Surely ample provision is made on our railway trains for non-smokers, without curtailing the comforts of the tobacco fraternity. We wonder how "Commuter" would enjoy traveling in Germany where every railway train is provided with a single car bearing the words "for those who *do not* smoke."

IN the list of patents published in our Department of New Inventions, there is noticed a weekly average of six car-coupling devices. This gives a yearly total of over three hundred inventions of the kind, and despite this large number the majority of roads cling to the old-fashioned link and pin coupler. We are at a loss to account for this apparent lack of enterprise on the part of railway managers in failing to adopt new methods and devices which are manifest improvements.

THERE is apparently an epidemic among the members of various State Legislatures in the matter of prohibiting free passes on railways. The Pennsylvania Legislature has just passed a bill forbidding their issue except for "charitable and benevolent purposes." We cannot perceive the exact object of this saving clause, and should imagine that charity will, as usual, cover a multitude of sins.

NEWS DEPARTMENT.

[Items of information suitable for this department and especially those adapted for the columns devoted to the Organization, Incorporation, Construction and Consolidation of Railways, are earnestly desired from our readers.]

CONSTRUCTION.

A route to shorten the distance between Pottsville and Shamokin was surveyed thirty-five years ago, and it provided for a 1,500 feet tunnel through a part of the Broad Mountain, and gave a total distance of thirty-two miles, with a maximum grade of seventy feet to the mile. Mr. R. A. Wilder, of Cressona, Penn., has recently surveyed this route with the result of shortening it to twenty-five miles, with a maximum grade of sixty feet to the mile. This route runs from Pottsville to Oak Hill and Dyers' Run, where a three-mile tunnel would have to be cut through Broad Mountain. The distance by the present route from Pottsville to Shamokin via East Mahanoy Junction is sixty miles. Mr. Wilder's route makes a saving in distance of thirty-five miles.

The managers of the Georgia Pacific Railway report that in future their work of construction will be confined strictly to the section lying between Atlanta, Ga., and Columbus, Miss., the distance being some 300 miles, of which 168 miles are completed and running, while a portion of the remainder is graded and the work is progressing as rapidly as possible. Meanwhile the first mortgage bonds are issued by the Central Trust Company only on road actually finished at $10,000 per mile, while it has cost over $20,000 per mile.

The Long Island Railroad Company purposes to file a map for the extension of the road from its present terminus in Brooklyn, at Atlantic and Flatbush avenues, along the latter thoroughfare to Fulton street, and thence in a straight line across private property to the Brooklyn terminus of the Bridge. The private property will be condemned under the General Railroad Act and purchased. The company will then build an elevated road from the Bridge to East New York, with four tracks.

At the annual meeting of the stockholders of the Bangor and Piscataquis Railroad Company, held in Bangor, Me., on the 21st inst., it was voted to reaffirm the votes of the stockholders at the meeting April 12, 1882, and instructed the directors to take the necessary steps for the completion of the road to Moosehead Lake. It was voted to accept the act of the Legislature extending the time for the completion of the road.

The new route from St. Louis to San Francisco, via the St. Louis and San Francisco to Halstead, Kan., the Atchison, Topeka and Santa Fé to Albuquerque, New Mexico; the Atlantic and Pacific to the Needles, on the Colorado River, Arizona, and the Southern Pacific to San Francisco, is expected to be in complete operation May 1. This line will be 300 miles shorter than the present one via Deming.

L. Austin Spalding, of Lockport, N. Y., has contracted to build seven miles of the Panama Canal, and will receive about $7,000,000 on the completion of the contract. Four dredges and four derricks are now being built by the Pound Manufacturing Company, at Lockport, and will be shipped to Panama about the 1st of May, when the work will be begun. Mr. Spalding is now in New York.

The chief engineer of the Baltimore and Ohio Railroad, commenced a preliminary survey of the Valley Railroad on the 22d inst. A despatch from Middletown, Md., says that the suggestion of building the road by the levying of a tax of eight cents on the hundred dollars is meeting with more favor every day, and there is a bright prospect ahead.

The White River branch of the St. Louis and San Francisco Railway was opened on the 24th inst., between Ozark and Sparta, a distance of eight miles. The line is now completed twenty-eight miles from Springfield, Mo., and the work of construction toward Harrisonville, Ark., is still progressing. Harrisonville is 100 miles southeast of Springfield.

A contract has been let for a branch line of the Addison and Northern Pennsylvania Railroad, which is to run from Davis station, near Gaines, Pa., southeast through Ben Gully to some coal mines. This branch will be about six miles long. Work is to be begun at once and finished in thirty days.

The Cincinnati and Eastern Railway will be made a standard-gauge and connect with the Chattaroi Railway at Ashland, Kentucky. The latter will be extended to join the Norfolk and Western Railroad, which will give Cincinnati another through line to the sea and the South Atlantic States.

The Richmond and Danville Railroad Company is fast extending the Western North Carolina Railroad to Ducktown, and will ultimately extend it to Chattanooga, Tenn., having been relieved by the Legislature of the necessity of building it to Murphy.

Work has been begun on the International road in Maine, near the Quebec border. The contracts let call for the completion this year of the road from the present terminus at Lake Megantic, P. Q., to the Maine State line, about fifteen miles, and of a section of twenty miles in Maine.

The engineers of the Indiana, Bloomington and Western Railway Company, at work surveying a route for the St. Louis extension of the road from a point nine miles east of Decatur, Ills., have reached a point near Pana. The work will be pushed forward rapidly.

Funds enough have been subscribed to build the Sanford and Eustis Railroad, from Sanford to Wekiva, both in Orange county, Florida, a distance of twelve miles. The line will be extended to Ocala, in Marion county.

At a meeting held in Dover, Penn., on the 24th inst., to consider the feasibility of the proposed railroad from York to Dillsburg, enough money was promised to make the construction of the road probable.

The Mojave branch of the Southern Pacific Railroad is 157 miles east of Mojave station. It will be thirty days before the Colorado River will be reached. Three thousand Chinamen are engaged on the front.

The track on the Carson and Colorado Railroad has been laid from the late terminus at Benton, Col., southward fifteen miles, and the grading is finished for fifteen miles further.

The New York, Lake Erie and Western Railroad Company are now surveying a line for the proposed railroad through the salt field recently discovered in the vicinity of Warsaw.

The Philadelphia and Reading Railroad Company contemplate putting down a third track on the Lebanon Valley Railroad, between Reading and Harrisburg.

The track on the extension of the York and Peach Bottom Railroad will probably be laid to Peach Bottom, in York county, Penn., by the 1st of June next.

The new Michigan and Ohio Railroad, from Toledo, Ohio, via Marshall, to Allegan, extending 154½ miles, will be in operation by June 15.

There are now but thirty miles to be constructed to complete the Denver and Rio Grande Railway between Salt Lake and Denver.

The first train over the Northern Pacific Railroad reached Bozeman, Montana, on the 22d inst.

ORGANIZATION.

At the annual meeting of the stockholders of the Portage, Westbourne and Northwestern Railway Company, held at Winnipeg, Manitoba, on the 23d inst., the following directors were elected: Andrew Allan and A. T. Drummond, of Montreal; Duncan MacArthur, F. H. Brydges, W. L. Boyle and H. N. Rutlan, of Winnipeg; Edgar Dewdney, of Regina, and B. H. Buckstone and Fox Warren, of England. It was resolved to increase the capital stock to $5,000,000 and to vigorously prosecute the work of construction from Gladstone, the present terminus. The directors elected the following officers: Andrew Allan president, Duncan MacArthur vice-president, F. H. Brydges, secretary and treasurer.

At the annual meeting of the stockholders of the Bangor and Piscataquis Railroad Company, held at Bangor, Me., on the 21st inst., the foling directors were chosen: Albert G. Wakefield, Thomas S. Moor, Chas. L. Marston, John Cassidy, Moses Giddings, Wm. B. Hayford, Asa D. Thompson, M. S. Drummond, John S. Ricker, Wm. H. Strickland, Joseph S. Wheelwright, of Bangor; Alex. M. Robinson, of Dover; and Josiah B. Mayo, of Foxcroft. At a subsequent meeting of the directors Moses Giddings was chosen president, Arthur Brown superintendent and H. W. Blood treasurer.

The first annual meeting of the Pottsville and New York Railroad Company was held in Pottsville, Penn., on the 20th inst., at which the following directors were elected: R. A. Wilder, Cressona; Walter C. Sheafer and Mason Weidman, Pottsville; John C. Beck and Daniel Boyer, Orwigsburg; Charles Wiltrout, Schuylkill Haven; Daniel Dechert, Cressona; and Charles V. Ware, New York. The officers are: R. A. Wilder president and general manager, Charles V. Ware treasurer, W. Leslie Sheafer, secretary.

The purchasers of the late Western Railroad

of Alabama have organized a new company under the name of the Western Railway of Alabama, and fixed the capital of the same at $3,000,000. The following gentlemen were elected directors: W. G. Raoul, Chas. H. Phinizy, and Dr. Hamilton, of Georgia; M. H. Smith, of Louisville, Ky.; Thomas G. Jones and Henry O. Semple, of Montgomery, Ala. L. R. Grant president, M. H. Abbott secretary and treasurer.

THE following gentlemen have been elected to fill the vacancies in the board of directors of the Columbus and Northwestern Railroad Company: James C. Baker, Mechanicsburg; David Bowersox, Sidney; T. J. Godfrey, Celina; Lemuel Weaver, Henry T. Niles and John S. Leedom, Urbana.

THE directors of the Newport and Cincinnati Bridge Company have elected Thomas D. Messler president, A. S. Berry, vice-president, S. B. Liggett, secretary, Wm. Davidson, of Pittsburgh, treasurer. A dividend of three per cent was declared, payable April 1.

INCORPORATION.

THE articles of incorporation of the Council Bluffs and Northern Railroad Company were presented at a meeting of the citizens of Council Bluffs on the 22d inst., and adopted, and directors and officers elected. The directors are: J. W. Chapman, J. J. Brown, Samuel Haas, E. L. Shugart, Thomas Bowman, J. T. Hart, and J. M. Palmer, all residents of Council Bluffs. The board elected the following officers: President, J. W. Chapman; vice-president, E. L. Shugart; secretary, Thomas Bowman; treasurer, Samuel Haas; general manager, J. J. Brown. The latter has been a railroad builder in the West for twenty years, and aided in the construction of nearly all the railroads in Iowa and Nebraska. The capital stock of the company is $1,000,000, and may be increased at the will of the directors. The road is to extend from Council Bluffs to Storm Lake, and thus form a new diagonal road. It will run through the best part of Northwestern Iowa, will traverse a rich agricultural region not hitherto touched by railroads, and take in a number of towns on the way. A corps of engineers is now engaged in the preliminary survey.

ARTICLES of incorporation were filed in the office of the Secretary of State of California, on the 16th inst., of the Turlock and Sierra Nevada Railroad Company. The directors are: Geo. Howard Thompson, of San Francisco; B. H. Deane, George C. Deane, H. H. Russell and J. W. Bost, of Merced county. The capital stock is $300,000, divided into 3,000 shares. B. H. Deane is president, J. W. Bost secretary, and H. C. Russell, secretary of the company. The principal place of business is Turlock. The object of the company is to construct and operate a railroad of the standard-gauge, and a telegraph line, beginning at the town of Turlock, Stanislaus county, and running thence in an easterly direction to Merced Falls, a distance of about thirty miles. The proposed road runs through a rich agricultural region and terminates at one of the largest flouring mills in that portion of the State.

PERSONAL.

THE Chicago, St. Louis and Pittsburgh Railway Company will take possession of the Columbus, Chicago and Indiana Central Railway on the 2d of April. The following are the officers: Wm. L. Scott, president, J. N. McCullough, first vice-president, office Pittsburgh, Pa.; Wm. Thaw, second vice-president, office Pittsburgh, Pa.; Thos. D. Messler, third vice-president and comptroller, office Pittsburgh, Pa.; M. H. Taylor, treasurer, 160 Broadway, N. Y.; S. B. Liggett, secretary, Pittsburgh, Pa.; A. Stull, assistant secretary, 160 Broadway, N. Y.; James McCrea, manager, Columbus, O.; J. T. Brooks, general counsel, Pittsburgh, Pa. J. J. Brooks, assistant counsel, Pittsburgh, Pa.; First vice-president McCullough has appointed D. T. McCabe, general freight agent; E. A. Ford, general passenger and ticket agent *pro tem.* Their official addresses will be at Chicago, Ill. Second vice-president Thaw has appointed M. C. Spencer, assistant treasurer, office at Pittsburgh, Pa.; and John C. Snee, paymaster, with office at Columbus, Ohio. Comptroller Messler has appointed John W. Renner assistant comptroller and A. McElevey auditor, with offices at Pittsburgh.

CHAS. A. HASLETT has been appointed superintendent of the Texas Division of the Texas Continental Transportation Company, vice Geo. M. Shattuck, resigned. Mr. Haslett's headquarters will be at Houston, Texas. The appointment is to take effect April 1. The Texas Division embraces the State of Texas, and also extends east as far as New Orleans, La.

How Preparations Progress for the Railway Exposition.

ATTENTION is again called to the coming National Exposition of Railway Appliances, by the announcement of the fact that Stephenson's Rocket, the first practical locomotive built, has been secured for the exhibit of "Old Curiosities." This locomotive has for several years been preserved in the museum at South Kensington, Eng., where, elevated on a pedestal, almost as uncouth, but far more powerful than a Hindoo god, it is one of the important objects of attraction and interest to all intelligent visitors. It is fitting indeed that this almost sacred relic should be brought to this vast inland city of the western world, for it marks, and was itself the first successful application of that power which has made the settlement of the great west and the present development of Chicago possible.

In view of the unexpected and wholly unprecedented demand for room by those who desire to exhibit, the board of commissioners have decided to add largely to the floor space of the present building, and also to erect an immense annex. The result will be to add, altogether, about 200,000 square feet to the space heretofore available for exposition purposes. In other words, the present space is to be nearly quadrupled.

The extension of the floor space in the present building includes a large addition to the portion devoted to machinery requiring power. A very large number of entries of iron and wood-working machinery have been made, and the display in this respect will equal anything ever seen before on this continent. One room, it is stated, will have twenty-six expensive machines in operation.

The steam supply will be increased from 200-horse power to 600, besides which it is expected that a boiler of 100-horse will be placed in the annex. This will nearly quadruple the present steam capacity. A large new dining-room or restaurant is being added, which will be in charge of a first-class caterer.

The annex will consist of two pavilions extending south and parallel to each other 400 feet, with an open court between them 100 feet wide. The east pavilion will be 90 feet in depth, and the west one 70. Both of these pavilions will be divided into stalls sixteen feet in width, in each of which will be placed a locomotive or a car. The vast central court will be divided by aisles into suitable spaces, which are being allotted to applicants whose exhibits are suited to such location. Many of these exhibitors will erect ornamental booths in which to display their articles. The eastern portion of the court will contain an immense transfer-table, by means of which cars and locomotives can be quickly moved into or out of their respective stalls. There will also be several railway tracks in the court, at least 400 feet in length, in which various devices, such as brakes, couplings, etc., as well as improvements in engines and cars can be tested. In the center of the court a band-stand will be erected, from which music will be furnished afternoons and evenings.

Railways in West Virginia.

THE Wheeling *Register*, in an article on "Railroads in West Virginia," says that the Ohio Central Railroad which has been completed from Point Pleasant to Charleston, will be extended this season at least sixty miles further up the Kanawha, or to its source at the junction of the Gauley and New River. It was at first uncertain up which river the road would go, but it has been definitely determined to go up the New River. The road follows the left bank of the Kanawha to a point above the mouth of the Gauley, whence it will cross by means of an iron bridge, and proceed by way of the New to Hawk's Nest, where it will cross the New and follow its right bank to a point some forty miles above Ainton. This is as far as the road is projected just now, and in all probability it will go no further. Meantime the Richmond and Alleghany Company is at work extending its line toward this State. Williamson's, east of the White Sulphur, has been reached, but as this is 'out of line' with the Ohio Central, a portion of the Williamson route will have to be abandoned and a line further south run in order to join the Ohio Central above Hinton. Thus a continuous line will be established from Richmond to Lake Erie, in north Ohio. The New River Valley is just beginning to develop, and abounds with some of the best coal and ore in the State. The rapidity of development of the Kanawha Valley and the valleys of its influents renders

the early completion of this road very desirable. The approach of roads from the North is also another incentive to execution in the matter. The completion of a road from Pittsburgh to cross West Virginia will throw open a trade whose magnitude cannot now be imagined. As a connection to both the Chesapeake and Ohio and Ohio Central roads, the advantages of such a road are apparent. West Virginia looks to Pittsburgh as the great depot for her coal, coke and ore, and the present anxiety is for a short line through the State to that city.

The New Steamship Fulda.

There arrived at Sandy Hook at a quarter past eight o'clock in the evening of the 24th inst. a splendid new steamship, belonging to the North German Lloyds line, and named the Fulda. She was built on the Clyde, by Elder & Co., who built the Alaska and the Elbe. She is commanded by Captain Christine Leist. This, her initial trip across the Atlantic, was remarkably quick, considering that she had westerly winds all the way. The Fulda's actual time from Southampton was eight days, three hours and fifteen minutes; from Queenstown seven days, eight hours and fifteen minutes, being a difference in her time and the fastest time made by the Alaska of only thirteen hours and fifteen minutes. Her best records were on the 21st, when she made 411 miles, and on the 23d, when she made 401 miles. On the latter date she had a fresh wind, west by north, moderating and changing to northeast, and then came a heavy snowfall. On the 21st she encountered seven icebergs and some ice fields. They were met from 43 deg. 58 min. north latitude and 48 deg. 38 min. west, to 43 deg. 18 min. north longitude and 50 deg. 93 min. west. She had to sail one hour south to get out of the way of the dangerous obstructions.

The dimensions of the Fulda are: Length, 445 feet (about sixty less than the Alaska); beam, 46 feet; depth, 36 feet 6 inches. Horse power, 6,000, with three cylinder engines of five feet stroke. She is all iron and carries four iron masts. The steam pumps and winches for working the cargo are numerous. Among the latest improvements is the electric illumination, two thirty-horse power engines and Siemen's dynamos, one for working and the other in reserve. The lights number 280, and are enclosed in almost every variety of shade, handsomely ornamented.

Her saloon is artistically fitted up in the Renaissance style. This fine apartment is about 50 feet long by 45 feet wide, and has in the center a spacious dome, with panelling richly carved in precious woods and ornamented with oil paintings. The swinging chairs, in blue velvet, are very comfortable. The ceiling is in admirable taste, with gilded, foliated freize, and broken up into panels heavy with the cleverest work of the carver. The lady's saloon, however, on the upper deck is a perfect gem. There are chairs and lounges after the Louis Quinze style; there are panels of finest satin fancifully worked; others filled with oil paintings, while the general woodwork is of polished ebony. The settee coverings are in maroon and blue velvet with curious patterns. Mirrors are in plenty. The hallway, so to speak, leading to this boudoir is paneled in bird's-eye maple, edged with polished teak. The smoking room, in elegance and comfort, is in keeping with the other parts of the vessel. The second cabin is equally handsome in fine woods and carving, and carpets rich and thick are everywhere.

She has accommodation for 140 first-class passengers, 170 second-class and 1,100 steerage. She brought only 476 passengers. Wiggins' prediction, the captain said, had deterred many from crossing. Her cargo capacity is 3,000 tons.

Steel Industries of the World.

In an article on the steel industries of the world, contributed to the *Revue Universelle des Mines* by M. Trasenter, the Belgian statistician, we find some interesting facts that have never before jointly appeared in print. Beginning with the raw material, the yield of some of the principal sources of ore supplies in the world has been as follows, in metric tons:

SOURCES OF SUPPLY OF BESSEMER ORES.

	1879.	1880.	1881.
England, hematites	2,397,000	3,044,000	3,051,000
Prussia, spathic ores	869,000	1,009,000	1,095,000
Styria and Carinthia	542,000	.....	509,000
Sweden	642,000	770,000	.....
Bilbao, export	1,117,000	2,345,000	2,500,000
Algeria, production	418,000	614,000	.....
Elba, export	282,000	350,000	.....
Lake Superior	1,425,000	2,017,000	2,396,000

The exports from Bilbao are known to have been 1,192,000 tons greater in 1882 than in 1881. The Bessemer pig furnaces of England, France, Germany, the United States and Belgium are partly supplied by ores shipped from Spain and from the Mediterranean, as the following table of imports of ores by sea by the various countries, being almost exclusively Bessemer ores, will show. The unit is the metric ton:

IMPORTS BY SEA OF BESSEMER ORES.

	1879.	1880.	1881.	1882.
England	1,098,000	2,675,000	2,485,000	3,330,000
France	668,000	789,000	815,000	850,000
Germany	275,000	400,000	500,000	630,000
United States	275,000	460,000	750,000	550,000
Belgium	45,000	100,000	120,000	170,000
Totals	2,360,000	4,422,000	4,690,000	5,530,000

The production of steel ingots in the five principal producing countries in the world was as follows in 1881, the figures given being thousands of metric tons:

PRODUCTION OF STEEL INGOTS.

	Bessemer.	*Open-hearth.*	*Crucible.*	*Total,* 1881.	*Total,* 1880.	*Total,* 1870.
Great Britain	1,465	343	50	1,858	1,414	350
United States	1,395	133	82	1,610	1,258	64
Germany	861	125	38	1,024	762	170
France	425		8	433	426	80
Belgium	141	...	..	141	120	9
Totals				5,066	3,980	673

For Austria, Russia and Sweden the figures for 1881 are not yet known, those for 1880 only being given:

	Bessemer.	*Open-hearth.*	*Crucible.*	*Total,* 1880.	*Total,* 1879.	*Total,* 1870.
Aus'a-Hungary	101	28	31	160	156	24
Russia	300		4	304	210	8
Sweden	30	8	2	40	28	12
Totals				504	394	44

From this the conclusion is drawn that, from a production of about 700,000 tons of steel in 1870, the industry has grown so that it turned out in the whole world about 3,525,000 tons in 1879, 4,500,000 in 1880, and more than 5,500,000 in 1881, and must have considerably exceeded six millions of tons of ingots during 1882. There is more inquiry for steel rails, and prices remain at $39 to $40. At these figures importations cannot be made, and the market is not likely to go lower. Eastern mills are said to have contracts which will keep them running for several months. Old rails are quoted at $23.50 to $24 for Ts and $27.50 for double heads. Scrap sells at $26 to $28, according to quality.

A Bicycle Elevated Road.

The Meigs Elevated Railway bill passed the House of the Massachusetts Legislature last week by a vote of 104 to 74. This is the nearest approach to success that Mr. Meigs has had. He has been indefatigable in his efforts to push his scheme through the Legislature, and once or twice he has seemed to be certain of success in the House when some unexpected opposition has arisen and defeated him. There is small chance, however, that his bill will pass the Senate. The scheme is a peculiar one. Mr. Meigs proposes to build a single-track elevated road, the cars and locomotive straddling the track like a clothes-pin on a line. The bill as it passed the House authorizes the construction of a road wherever the consent of the town or city can be obtained. The sentiment in Boston is pretty evenly divided on the question, so far as numbers are concerned; but there is a decided opposition to any kind of elevated road in Boston among the real estate owners generally.

Spring Prices for Coal.

The Philadelphia and Reading Coal and Iron Company issued on the 20th inst., its new spring circular of prices of coal for shipment. The rates, which went into effect on the 21st, are as follows, free on board at Port Richmond: Hard white ash—Lump and steamboat, $4.50; broken, egg and chestnut, $3.75; stove, $4; pea, $2.65. Free-burning white ash—Steamboat and broken, $3.55; egg, $3.65; stove, $4; chestnut, $3.75; pea, $2.50. North Franklin white ash—Broken, $3.55; egg, $3.90; stove, $4; chestnut, $3.75; pea, $2.50. Schuylkill red ash—Egg and chestnut, $3.75; stove, $4.20; pea, $2.50. Shamokin—Egg, $3.90; stove, $4.20; chestnut, $3.85. Lorberry—Egg, $3.90; stove, $4.30; chestnut, $3.85. Lykens Valley (Brookside)—Broken, $4.35; egg and chestnut, $4.65; stove, $4.85. At Elizabethport, N. J.: Hard white ash—Lump and steamboat, $4.85; broken, egg and chestnut, $4.10; pea, $3. Free-burning white ash—Steamboat and broken, $3.90; egg, $4; stove, $4.35; chestnut, $4.10; pea, $2.85. North Franklin white ash—Broken, $3.90; egg, $4.25; stove, $4.35; chestnut, $4.10; pea, $2.85. Schuylkill red ash—Egg and chestnut, $4.10; stove, $4.55; pea, $2.85. Shamokin—Egg, $4.25; stove, $4.55; chestnut, $4.10. Lorberry—Egg, $4.25; stove, $4.65; chestnut, $4.20. Lykens Valley (Brookside)—Broken, $4.70; egg and chestnut, $5; stove, $5.25. This shows a decline of from

15 to 60 cents per ton. The greatest decline is in egg, stove and chestnut sizes and the smallest in lump, steamboat and pea coals.

Refrigerator Cars.

In January last, says the New Orleans *Times-Democrat*, we published a lengthy interview with David M. Higgs, president and general manager of the Texas Continental Transportation Company, which was recently organized to operate the refrigerator car business over the Huntington-Pierce system of roads. On the 16th inst. a reporter met Mr. Higgs and accompanied him and Wm. Fagan to the freight depot of the Jackson Railroad, where he was shown the cars of the company.

The Texas Continental Transportation Company is a fast, perishable-freight line to operate over the Southern Pacific, Galveston, Harrisburg and San Antonio Railway system. New Orleans to San Francisco; Chesapeake and Ohio; Chesapeake, Ohio and Southwestern; Cincinnati, Indianapolis, St. Louis and Chicago; Ohio and Mississippi and Kentucky Central railways and connections forming a complete system—North, South, East and West. Mr. Higgs, who has a practical knowledge of freight cars, having worked in them as a boy and for many years afterward, invented the refrigerator cars used on this line and had them patented in 1881. He was general manager of these cars on the Gould fast freight line, but resigned to accept his present position.

The car is solidly constructed of the best woods. It is thirty-four feet long and nine feet wide. Between the framework of the floor, ceiling and sides are placed material which acts as a non-conductor of heat or frost. At each end of the car are compartments or tanks for the ice of novel device, with a capacity of four tons. Any hot air is drawn up over these compartments. The cold air descends and deposits the moisture on what is called the galvanized umbrella. Beneath the ice tanks are small troughs to let the drippings of the ice run out. Racks are arranged on top to hang the meat on.

The car is perfectly air-tight, the only openings being the doors on each side. When they are closed it is hermetically sealed. The temperature of the car is so perfected as to prevent freezing in winter, and it is heat-proof in summer, thus preventing any difference being made in the change of climate. A piece of sack that had been soaked in water three or four hours before was found to be nearly dried, while the water that had fallen on the floor was almost dried up. A match could be ignited within an inch of the iron work in the car, demonstrating the complete absence of any dampness.

Mr. Higgs stated that the American Com pany transported in one year $3,000,000 worth of property, paying the railroad $500,000 freight, and they never lost a dollar. Mr. Higgs' company gives a guarantee bill of lading on the freight they take in these cars. These cars have been running here since January, carrying all classes of perishable property. In May it will begin carrying dressed beef.

The Texas Continental Transportation Company now has cars out and in operation, besides 100 contracted for to be delivered by June 1, when another 100 will be built at once. It is calculated that the company will build between now and January 1, 1884, 300 cars, and as many thereafter as the business requires. A large business is expected to be done from Newport News to the west in the fruit and vegetable line. This product comes in a little later than New Orleans and Texas product and will be a new departure for the Virginia growers; their markets heretofore being New York, Boston, Philadelphia and Baltimore. But the Texas Continental line will open up with their cars over the Chesapeake and Ohio Railroads new markets in the Northwest. Cars are now being built at Terre Haute for this particular branch of the business, being made high and roomy so as to hold large carloads of bulky property. The company will have agents to promote this business, and find markets for this class of products in the Northern States and cities, and will always see that shippers' interest are looked after and their property delivered in good condition.

The Work Accomplished by the Okeechobee Drainage Company.

James M. Kreamer, Chief Engineer and Superintendent of the Atlantic and Gulf Coast Canal and Okeechobee Land Company, has issued a statement of the results thus far attained by that company in its efforts to reclaim 11,000,000 acres of low lands in the Florida Everglades. The drainage problem means simply the relieving of the land from surface water immediately after the rainy season. This, it has been demonstrated, can be done by the construction of canals and the opening of old river beds. The work already performed has resulted in the reclamation of 380,000 acres of land, for which the State has donated 190,000 acres in return, in compliance with the terms of the company's contract with the State.

A drainage canal, six feet deep and forty feet wide, is being constructed from Lake Tohopekaliga to Lake Cypress, a distance of 3¾ miles. Work was begun at this point in July, 1882. Since then Tohopekaliga, which has an area of about twenty-four square miles, has been lowered thirty inches. A canal 3½ miles in length has been cut below Kissimmee in order to draw off the waters of Lakes Isabel, Alligator and East Tohopekaliga, that are clustered together in that vicinity. There is now being cut a canal from Lake Flirt, on the Upper Caloosahatchie River, to Lake Okeechobee, a distance of eleven miles, which is designed to be six feet deep and twenty-five feet wide. Operations have been conducted without intermission during the year. The character of the work necessitates the daily exposure of the force to the weather, notwithstanding which the men have retained their health.

It is proposed, by other canals from Lake Okeechobee to the south and east, to lower the water surface of Okeechobee eight feet below its present level. This once accomplished the bordering lands of the lake and streams tributary will be improved, and upwards of 1,000,000 of the richest acres will thus be rendered susceptible of successful cultivation.

Elevated Railways in Germany.

The Berlin City Elevated Railroad, crossing the city from east to west, which was first opened about a year ago, carried 6,173,700 city passengers in the first eight full months after it was opened, March to October, inclusive. It forms the city entrance for several railroads east and west of the city, and in connection with them in six months ending with October it carried 307,670 suburban and 126,870 other passengers. The total number of passengers carried in the six months was 5,000,340, or an average of 833,390 per month—about equal to ten days' travel on the Third avenue or Sixth avenue elevated roads in New York. The largest traffic was in May—1,045,520 passengers. In the budget of the State Railroad Administration the earnings of the road for the first year were estimated at $825,000; the prospect now is that they will not exceed $560,000. The rates on this road vary with the distance and the class of cars, and the average receipt per passenger has varied curiously from month to month.

Dining Cars for the Canada Southern Railway.

Two handsome dining cars for the Canada Southern division of the Michigan Central Railroad are reported to have arrived in Canada from the shops at Wilmington, Del., where they were built. They are wider and longer than the ordinary coach and ride much easier. The exterior is painted light yellow, and upon the upper edge are the words, "Michigan—C. S. Div. Central," in metal letters. The panel in the center of the cars bears their respective names, "Detroit" and "St. Thomas." The trucks are supplied with 42-inch hollow wheels, having steel tires. The interior is finished in light woods and decorated in a manner that gives the car an elegant, cosy and attractive appearance. The entrances and plate-glass windows are hung with rich curtains, and the panel between each window is filled with a fine plate-glass mirror. The roof is ornamented with sketches inclosed in simulated frames, of fowl and fruits. The tables, ten in number, are so constructed that they can be removed when not in use. The seats are similar to those of a sleeping coach in style, and are upholstered in leather. The kitchen and serving room are located at one end of the car, and supplied with refrigerators and all necessary utensils. At night the cars will be lighted from half a dozen brass chandeliers, having each two lamps. Supplied will be carried in lockers underneath the car, and the heating apparatus is of the Baker patent. The cars will probably go into service about the first of April. They have been turned over to Master Mechanic Robert Potts, of the Canada Southern, and are stored at East Buffalo, together with ten new coaches for the division, which were delivered at the same time.

Prosperity of the Ocean Steamship Trade.

The London *Examiner* says that the past year has been one of unusual prosperity for the steamers plying between England and America, and asserts that such vessels as the Alaska, Servia, Gallia, etc., earn each voyage from £18,000 to £20,000, one-half of which is profit. To this fleet is to be added during summer another vessel, the Oregon, which is intended to excel in speed the fastest steamer afloat. As described by the *Examiner* she will not be much larger than the Alaska, but her engines are to indicate no less than 13,000 horse-power. She will have but one screw, about twenty-four feet in diameter, with a pitch of nearly forty. Steam will be supplied by twelve boilers, each with six furnaces. The Oregon will burn about twenty pounds of coal per square foot of grate per hour, her consumption in twenty-four hours will not be much under 300 tons; and, allowing that each ton of coal evaporates nine tons of water, it follows that no less than 2,700 tons of steam will pass through her engines every twenty-four hours.

A tank 100 feet square, to hold 2,700 tons of water, must be nearly 10 feet deep to prevent the water from running over the edge. If the tank were 50 feet square, the water would stand 38 feet 10 inches deep in it. If the water were supplied to a town, allowing 4 cubic feet or 25 gallons per head per day, it would suffice for a population of 24,000 souls. The total weight of water evaporated on the run across the Atlantic will not be far short of three times that of the whole ship's cargo, engines and all. Assuming that she makes 20 knots an hour, omitting fractions, 2,023 feet per minute, the thrust of her screw—that is to say, the force pushing her ahead through the water—will amount to over 94 tons, or about as much as 20 of the most powerful locomotive engines in England would exert if all were pulling at her together.

Central Asian Railway.

A correspondent of the London *Times*, writing from St. Petersburg under date of February 20, says:

"A certain M. Alexandroff has just ventilated a fresh project in the *Novoe Vremya* for constructing another new railway in Central Asia through a tract of country hitherto considered almost impassable. This new line is to be a great commercial success. After referring to the difficulties and expensiveness of the present commercial route, the author asks whether it is not possible in the first place to make use of the natural means of communication between European Russia and Central Asia—that is, the Volga, the Caspian and the Amu Darya. Both the rivers are easily navigable for steamers as well as barges, to say nothing of the sea. The Kyzil Arvat Railway, though made for purely military purposes, has been considered as useful also for extending Russian commerce to Persia, Khiva and Bokhara. It may be thus used as far as concerns the other country, but it is scarcely applicable for communication with Khiva and Bokhara. Besides the road from the Khivan oasis to Kyzil Arvat, there is another route that might be used for constructing a commercial highway, and that is from the delta of the Amu Darya through the low hills of the Ust Urt to the northern part of the Caspian. The construction of such a railway, states M. Alexandroff, would offer no great technical difficulties, and would be in all only about 340 miles long. It would unite the basin of the Amu Darya with the great commercial highways of European Russia."

Annual Production of Lead.

It is estimated that the annual production of lead in the United States is 124,000 tons of 2,240 pounds, of which Missouri and Kansas produce 28,000 tons. The increase of production for the past few years has been at the rate of 15,000 to 20,000 tons per annum, which has been successfully met by increased consumption. Last year the eleven desilverizing works in the West turned out 100,000 tons of lead of 2,240 pounds, and $20,000,000 worth of gold and silver, making their output of base and precious metals aggregate something like $30,000,000. This year the western mines promise to largely increase their output, and particularly is this true of the mines of Utah, Colorado, Nevada, Montana, New Mexico and Idaho. Concerning the future of lead the *Iron Age*, from which the above was obtained, says: "Left to itself lead may sink to a lower level than it did in 1882, and this may stimulate consumption to a greater extent than is generally supposed. The sooner it reaches that level, whatever it may be, the better, and the steadier the prices remain afterward the better it will undoubtedly be for the consumer."

Reserved Seats.

The custom of reserving seats in railroad cars is not unusual, yet some people seem to have a doubt of its propriety. A few days ago this doubt was actively expressed upon a road passing through one of the suburbs of Boston, the method of expression being perhaps somewhat peculiar. A passenger who had filled an empty seat with parcels and papers with the evident intention of signifying its reservation was surprised by the removal of the packages by another passenger. "This seat is saved," was the polite objection. "I'll take it," was the rather abrupt rejoinder. "But I'm expecting a friend." "Your friend can take another seat." "If my friend comes I shall request you to remove your seat." "If your friend comes I shall keep this seat. I don't approve of saving seats for a short distance." And possession proved to be "nine points of the law," but there wasn't any friendship lost between those two passengers.

Immense Estates in Mexico.

Much has been said and written of the great extent and large possibilities of Mexican haciendas. But probably few people in the United States even yet realize the extent of some of these tracts of land, where a million or a million and a half of acres often constitute a single estate in the hands of one owner. There are many such estates in Mexico large enough to hide away many a European principality, large enough to awaken the envy of many a land proprietor in the Pacific coast States of the Union. These are to be found in many of the Central and Northern States of Mexico. The famous Salado ranch, for example, contains over 600 square miles of land. It lies partly in the States of Nuevo Leon, Coahuila, Zacatecas, and San Luis Potosi, on the highway to Mexico, and on the line of the new railroads. It occupies the central table-lands of Mexico at an average elevation of 4,000 feet. Chains of mountains traverse the estate, rich in mineral wealth. The boundaries of the estate extend more than 100 miles from north to south, and flourishing farms and large mining towns are met at frequent intervals.

Sixty Miles an Hour.

That a high rate of speed can be obtained by the use of the independent cut-off valve on engines was explained in a lecture delivered in Philadelphia on the 21st inst. by Prof. W. Barnet La Vau. He compared the stationary engine of the past with the locomotive engine of to-day. The speed of the engine, he maintained, could be increased to between seventy and eighty miles an hour without any special change in the present construction of locomotives, and that a uniform speed of sixty miles an hour can be accomplished with the same engine now in use with the addition of an independent cut-off valve.

In the old days, when the stage-coach was used as a means of travel, the loss of life among people who traveled was one in 5,000, while at the present time it is only one in 5,000,000.

Weekly News Items.

John E. Wootten, general manager of the Philadelphia and Reading Railroad, claims that by the use of a process of which he is the inventor upon the locomotive engines of the company for the burning of "waste coal" an annual saving of over half a million of dollars can be effected. For years this process has been in use throughout the anthracite region, and where formerly the choicest coal would have been taken to burn under the boiler, it is now the common and will soon become the universal practice to save all the marketable coal for shipment, and to consume about the collieries only the fine refuse which would otherwise be thrown upon the "culm bank" or dirt heap, and wherever stationary boilers are employed "pea coal and dust" are coming into general use. The saving in the case of stationary boilers by the adoption of Mr. Wootten's plan is probably greater even than with locomotives.

The shops of the Indianapolis and St. Louis Railroad at Mattoon, Ill., have recently turned out a handsome passenger train and a new engine. The latter will be known as No. 106, and is the largest passenger engine on the road. This engine was built to haul heavy express trains, weighs forty tons without a tender, has a

seventeen and one-half by forty cylinder; driving wheels, five feet and eight inches; straight smoke-stack, extension-boiler, air-brakes, and is a model engine in every respect. The passenger cars are Nos. 202 and 204, and have been rebuilt. They are painted Tuscan red, and lettered with gold leaf "Indianapolis and St. Louis." The words "Bee Line" also appear on them.

A TRAIN of parlor cars, built expressly for the Bound Brook route, has just been turned out of the shops at Reading, Penn. Each cost $10,000 in round figures. They are divided into several apartments, and the finest plush has been used in upholstering, all of which has been done in a skillful manner by the upholsterers in the employ of the company. Each car is supplied with smoking and wash-rooms fitted up with an eye single to convenience and comfort. Solid silver receptacles adorn the car on each side, and the heating facilities are of the best.

E. N. SMALLEY, in the February *Century*, said that the consumption of beer in the camps of the railroad builders is enormous. At Bismark he saw an entire freight train of thirty cars laden with bottled beer from a Chicago brewery, bound for the town nearest the end of the track. The chief engineer of the construction force said that an average of one bottle for every tie laid was consumed, and that the tie and the beer cost the same—fifty cents. Thus the workmen pay as much for their drink as the company for one of the important elements of railway construction.

THE Pittsburg, Cincinnati and St. Louis Railway Company is having built as an experiment sixty box cars, thirty-six feet in length, which will have a carrying capacity of 50,000 pounds. Master car-builders have worked steadily up from the old limit of 20,000 pounds in freight cars to 25,000, 30,000 and even 40,000, but the increase to 50,000 pounds is certainly a bold one. Practically, however, there is no limit to the possible capacity of cars, provided enough wood and iron are used and the track and structures will sustain them.

THE Cincinnati, New Orleans and Texas Pacific Railway Company, lessees of the Cincinnati Southern Railway, have made arrangements whereby their trains, both freight and passenger, will run to Louisville over the Lebanon branch of the Louisville and Nashville road. This gives the Cincinnati Southern control of the shortest route from Louisville to Chattanooga and all points south and southeast, and makes it the only competition against the Louisville and Nashville systems. The company will open offices in Louisville.

AN official circular of the Treasury Department at Washington announces the suspension of the privilege of exchanging three-and-a-half per cent bonds for threes during the month of April, as the transfer books will be closed during that month for the preparation of checks for May interest. Bonds will be received and filed during April, however, for subsequent exchange, and interest on the three-and-a-halfs so filed will be paid up to May 1st, and on the threes issued therefor from and after that date.

THE Chesapeake and Ohio Railway, with its connections, has arranged a fast schedule via the Baltimore and Potomac Railroad and the Richmond, Fredericksburg and Potomac Railroad and its Peninsula Division, to Old Point, placing passengers within a short distance of the Hygeia Hotel. Passengers by this route go direct to Old Point from Richmond, touching, among other points of interest, at Alexandria, Fredericksburg, Fort Lee, the Chickahominy, Williamsburg, Newport News and Hampton.

THE new passenger elevator at the Broad street station of the Pennsylvania Railroad at Philadelphia has been tested in order to prove the efficiency of the patent safety air cushion. The cab was hoisted to a height of eighty feet, and the cushion having been adjusted, the rope was cut, allowing the cab to fall the full length of the shaft. The nails in the floor of the elevator were forced up by the shock, but the cab sustained no other damage. The floor will be replaced by a heavier one.

THE Pennsylvania Railroad Company has issued a circular publishing the provisions of the act of incorporation that no transfer of stock within sixty days of election shall entitle the holder to vote; that no male stockholder living within ten miles of the place of election shall vote by proxy; that no person shall represent more than three absent holders by proxy, and that proxies must be legally executed within three months of the election.

THE officers of the Minneapolis and St. Louis, the Burlington, Cedar Rapids and Northern, the Chicago, Burlington and Quincy, and the St. Louis, Keokuk and Northwestern Railroads have decided to re-establish the fast passenger line between St. Louis, Minneapolis and Lake Minnetonka and St. Paul, to be called the St. Louis, Minneapolis and St. Paul Short Line. It was formerly known as the Iowa route. This arrangement goes into effect on April 1.

A NEW horse-shoe has been devised which might be profitably employed on the tramways whose cars are propelled by horse-traction, which class of roads are by far the most numerous. The shoe is composed of three thicknesses of cowhide compressed into a steel mold and subjected to a chemical preparation. It is said to last longer than the common shoe, weighs only one-fourth as much, requires no corks, and is very elastic.

THE old locomotive "Rocket," built by George Stephenson, the first engine ever run on a railroad, will be exhibited at the National Exhibition of Railway Appliances, which will open at Chicago on the 24th of May. It is now in the South Kensington (London) Museum. Another old engine from England will be exhibited, also from Nova Scotia, and one of the first engines used on the Baltimore and Ohio Railroad.

CORRESPONDENCE.

[COMMUNICATIONS are solicited for this department on all subjects pertaining to Railroads, Steam Navigation, Machinery, Manufactures, etc. No attention will be paid to communications unless the name and address of the writer is furnished us, though if desired, they will be withheld from publication. We assume no responsibility for statements made by correspondents, and we do not necessarily endorse ideas advanced by them. Under these conditions we think it of value to our readers to devote a liberal space to the free discussion by others—whose opinions may be at variance with our own—of subjects pertinent to this department of the AMERICAN RAILROAD JOURNAL.]

OUR CANADIAN LETTER.

[From our Special Correspondent.]

RAILROAD AND OTHER NOTES.

The Great Western "Air Line" is to be ballasted from Glencove to Fort Erie, and generally put in first class order to accommodate the great increase in traffic consequent on the opening of the Sarnia cut off. In future all the Buffalo freight will go by the "Air Line."

John Porteous, General Freight Agent of the Grand Trunk Railway, General Superintendent Canada Southern and representatives of the Atchison, Topeka and Santa Fe, New York Central, and Chicago and Rock Island Railways held a meeting with reference to freight business in Toronto on Thursday last.

Work on the Murray Bay Canal is progressing and when spring opens an additional force will be put on.

A Kingston gentleman interested in the Kingston and Pembroke Railway says that there are no indications of the sale of the road. The railway, as now managed, pays better dividends to the shareholders than it would if any other company owned it. The road will continue to act in consert with both the Grand Trunk Railway and Canadian Pacific so long as it is advantageous to do so. This gentleman considered the sale of the road a thing not likely to occur for some time.

The traffic return of the Toronto, Grey and Bruce Railway for the week ending March 17, 1883, was $6,298.

The traffic of the Midland Railway of Canada for week ending March 17, 1883: Passengers and mails, $4,312.81; freight, $8,324.05; total, $12,636.86, as compared with $16,305.27 for the corresponding week of 1882, being a decrease of $3,668.42; and the aggregate traffic to date is $152,393.50, being an increase of $1,049.69 over 1882.

It is said that Mr. W. P. Taylor of the Canada Southern has accepted the general superintendency of the New York, West Shore and Buffalo Railway and will enter upon his duties May 1st next.

The Pontiac and Pacific Railway having negotiated the sale of one and a half million of six per cent bonds in England, are paying their outstanding bills to contractors and others.

The following special cable was received by the Toronto *Globe* March 21: The Grand Trunk report of the working of the combined lines from August 12 to December 31 was issued to-day. The gross receipts as compared with the corresponding period in the previous year show an

increase of fourteen per cent. The working expenses have decreased six per cent. The directors propose on an early date to invite subscriptions for £750,000 perpetual four per cent debenture stock for the redemption of the prepreference securities now maturing, and to provide for other capital requirements. The president will submit at a meeting the views of the Board respecting the consolidation of debentures and other stocks of the company, and the separation of contingent from the more immediate rights of the share capital.

The Montreal and Sorel Railway have authorized an issue of $2,000,000 at six per cent.

WINNIPEG, March 25.—A deputation of citizens of Brandon waited on General Manager VanHorne, Canadian Pacific Railway, yesterday, relative to construction of the Souris branch of that road. He said the company had already entered into contract to build seven hundred miles of the main line to the Rockies this year, with the Selkirk and Emerson branches. The Souris branch would be, however, constructed at the earliest possible day, in fact surveys would be made this season and the line located.

Mr. Langdon, of the firm of Langdon & Sheppard, Canadian Pacific Railway contractors, says that the railway would be completed to Calgary by the 15th of August, and that it was likely that the Rockies would be reached before winter set in.

A fat stock fair will be held in Toronto on December 13th, 14th and 15th, $14,000 in prizes will be given.

Mr. W. Whyte, late of the Grand Trunk, assumes the place of Mr. Jame Ross as superintendent of the Credit Valley. The appointment is conceded by all to be the best that could be made, such is Mr. Whyte's popularity.

Five postal cars, American style, are to be placed on the Grand Trunk between Montreal and Toronto.

The Montreal City Gas Company have reduced the price of gas to $1.70 per thousand a reduction of 20 cents.

MARITIME PROVINCE NOTES.

There have been heavy freshets in Nova Scotia and New Brunswick—and mills, bridges, etc., washed away causing much damage, the waters are receding slowly, and it will be some weeks before the damages done is repaired.

The Star Manufactory of Halifax has declared a dividend of 6 per cent.

The Oxford Gold Mining Company of Chezetcook, Halifax Co., N. S., has declared a dividend of 5 per cent on the capital stock. Their total bullion productions since January 1st, 1883, has been $7,365.

Work has not been resumed at the Lingan Mines as the men still fear ill treatment from the union men. If there are any further serious troubles amongst the striking coal miners at Lingan, Imperial troops will be sent from Halifax to suppress them.

Mr. William Brymner, principal of the Ottawa Art School, has prepared a cast of the Tadousac Fish Hatchery on the Saugenay river, showing in a beautiful manner the buildings, dams, lake and part of river. The cast was shipped on Saturday to England.

Some ten car loads of cases of mounted fish were shipped to Halifax on Thursday last by the Marine and Fisheries Department.

Over 600 tons of freight comprising specimens of Canadian fish products, animals, etc., will be shipped during the first week in April to England via the government steamer Newfield to be exhibited at the London International Fisheries Exhibition.

Some years owing to lack of snow the supply of lumber is short. This year owing to the great quantity of snow, and the consequent increase, the cost of lumbering, it is claimed that the supply will be short, or at all events not exceed that of last year. Opinions differ as to the price of lumber this year, some contending that it will cost more than last year, while others say that though the cost of production may be increased as compared with last season, it does not follow that the prices will be increased or even sustained as the demand will regulate that.

"W."

OTTAWA, March 28, 1883.

English and American Railway Travel Contrasted.

EDITOR AMERICAN RAILROAD JOURNAL:

SIR:—Referring to an article headed as above in your issue of 17th inst., perhaps it will not be uninteresting to some of your readers to have an Englishman's views on this subject, as there are always two sides to a question. Undoubtedly there is a great difference in the two systems of railroading; each has been brought about by the wants of the people, and are best suited to their respective countries. To introduce the whole of the American system of travel into England would in many respects be found unsuited to the ways and habits of the people, quite as much so as to introduce the English system in America. When we take into consideration the above, I cannot see how the railways on their own merits will bear comparison.

With your permission I would like to correct a few of your remarks as to the English system. One reason, no doubt, why the "Pullman" cars in England are not more generally patronized, is because only first-class ticket-holders (for an obvious reason) are allowed to do so; and they form a small proportion of the traveling public.

The second and third-class carriages (especially on the through routes) of late years have been so much improved that to take a first-class ticket, even by many who can well afford to do so, is considered an unnecessary expense, except when privacy is desired. I must here contradict your remark that the second and third-class carriages are on a par with the American emigrant car. The second-class are always, and the third-class more often than not, well cushioned, fitted with hat-racks, etc., which is more than can be said of the American emigrant cars, as far as my knowledge of railway equipment (after nearly ten years' residence on this side of the Atlantic) goes.

You make a strong point of the "Pullman" cars but say nothing respecting the English "saloon" carriages which are handsomely and conveniently fitted up.

As regards the relative fares charged, the first-class fare there, on the average, is a cent, or a trifle more per mile than the first-class fare here; the second about the same, and the third a cent less. I am speaking of single fares—return tickets are issued at much lower rates.

Your remarks as to the duties of the "guards" also needs a little correction. The guards (except in rare cases), have nothing whatever to do with tickets, seeing that *one* guard is often the only employé on a train (besides the men on the engine), his duties include those of conductor (with the exception of looking after the tickets), baggageman, expressman, and brakeman; he has quite enough to do without collecting tickets, that duty being performed at junctions and terminal stations by men appointed for that purpose; at wayside stations it is generally done by a platform porter.

I consider the "tedious and wholly unnecessary delay" in collecting tickets, that you speak of, is more than made up by the short stoppages at stations *en route*, and the higher average speed of trains; moreover, tickets are collected from the through express trains at the last station where the train is booked to call, and done during the time the luggage (baggage), express parcels, etc., are being loaded up, very little, if any, unnecessary delay therefore occurs.

As to not being able to get water, I don't think as a general thing that is a matter of much moment in England, far less water is drank there than here, the difference in climate is probably the reason.

And now as to the checking of baggage. I will just give you my experience when traveling a few years since from Glasgow to London, my baggage was checked, and a check with a corresponding number was given to me, which I had to produce at St. Pancras station before I could regain my baggage. The only difference between it and the American system being the substitution of paper for brass checks. Even without the check system, there is no more necessity to look after luggage *en route* there than here, providing the passenger sees it properly labeled before starting. No doubt luggage sometimes goes wrong when changing at junctions, through mistakes of the guards or porters; such mistakes also occur here, for which there is less excuse, as baggagemen's duties are more restricted to that one thing, than a guard's.

I fail to agree with you that the American system will be adopted in a few years on the English roads, for more than one reason. Seclusion from strangers is a characteristic of the English when traveling, and until they change in that respect, I do not think the American cars will meet with much favor there.

As to murders and robberies, considering the vast numbers that travel in England, I do not think such cases are so numerous as to cause much alarm. The American railway system is not free from such cases by any means, only it is usually done here in the old-fashioned stage coach way, *i. e.* by a gang of men stopping the train (sometimes wrecking it), and going through it in a wholesale manner.

Before concluding, I will say a few words as to the disadvantages of the American car. In the first place, the amount of dead weight hauled per passenger is far too heavy, and in the next place the number of doors to each car are too limited for quick despatch of trains;

this would be especially felt on the metropolitan lines, where the trains are numerous, and have to be got over the roads as quickly as possible.

As to speed, punctuality, and number of trains (three very important matters to business men), I think the English railways have the advantage. Yours, etc.,

"R."

TORONTO, March 26, 1883.

Smoking.

MR. EDITOR:—I saw by your JOURNAL of the 17th March, an article in relation to laborers being taken up by trains on the roads, and their smoking in the smoking cars. Here are men complaining of others indulging in the same nasty habit as themselves, only the tobacco does not suit their refined tastes, and yet these same *gentlemen* will force the abominable stench down the throats and up the noses of those who never use the weed, and to whom it is not only disagreeable but absolutely sickening, and if it is even intimated to them that such is the case, they will be highly offended, and tell you if you do not like it, go some where else. Take the Central Railroad of New Jersey waiting room. Between the entrance, from the street, and the sitting room, the atmosphere is abominable, and men puff their smoke into ladies' and gentlemen's faces in perfect clouds while waiting for the gate to the boat to be opened. Also in the mornings, men entering, many will go through the train with their segars and pipes lighted, fumigating the whole train, and as it is coming warm weather the smoking car must have the rear door open, and unless the next car has the door shut the whole train is fumigated. Smokers must have their rights, but what rights have non-smokers, ladies or gentlemen, n cars or waiting room.

A COMMUTER.

NEW YORK CENTRAL AND HUDSON RIVER RAILRO D.—Commencing November 6, 1882, through trains will leave Grand Central Depot:

8 a. m., Western and Northern Express to Rochester and Montreal with drawing-room cars: also to Saratoga.

8:40 a m., Special Express for Chicago, daily, stopping only at Albany, Syracuse, Rochester, Buffalo, Erie, Cleveland and Toledo.

10.30 a. m. Chicago Express, drawing-room cars to Canandaigua, Rochester and Buffalo.

11 a. m., to Albany and Troy, with connection to Utic Saratoga, Glens Falls, Lake George and Rutland.

3.30 p. m., Albany and Troy special, Saturdays only.

4 p. m., Accommodation to Albany and Troy.

6 p. m., St. Louis Express, with sleeping cars for St. Louis; running through every day in the week, also Niagara Falls, Buffalo, Toledo and Detroit.

6:30 p. m., Express daily except Sunday, with sleeping cars to Syracuse and to Auburn Road, also to Saratoga and Montreal.

9 p. m., Pacific Express, daily, with sleeping-cars for Rochester, Buffalo, Cleveland, Toledo, Detroit, Chicago and Lowville.

11 p. m., Night Express, with sleeping-cars to Albany and Troy. Connects with morning trains for the West and North.

Tickets on sale at No. 5 Bowling Green, 252 and 413 Broadway, and at Westcott's Express Offices, 3 Park Place and 785 and 942 Broadway, New York, and 333 Washington street, Brooklyn.

C. B. MEEKER,
Gen. Passenger Agent.

J. M. TOUCEY, Gen. Sup't.

NEW YORK AND NEW ENGLAND RAILROAD.

Resumption of the Favorite

Tranfer Steamer Maryland Route.

THROUGH PULLMAN CARS FOR

PHILADELPHIA, BALTIMORE AND WASHINGTON,

WITHOUT CHANGE: connecting with through trains to **Florida** and all points **South** and **West**. Train leaves Boston at 6:30 P. M. daily.

Leave Boston for **Grand Central Depot, New York,** at 9 A. M.; returning, leave New York at 11 A. M. and 11:34 P. M., week days. Pullman Palace Cars run through.

THE NORWICH LINE

—BETWEEN—

BOSTON AND NEW YORK.

Steamboat train leaves Boston 6:30 P. M. arrives at New London at 10:00 P. M., connecting with the new steamer **City of Worcester,** Monday, Wednesdays and Fridays, and **City of New York,** Tuesdays, Thursdays and Saturdays. Returning, steamer leaves Pier 40, North River, New York, at 4:30 P. M., connecting at New London with train leaving at 4:05 A. M., arriving in Boston at 7:55 A. M. Good night's rest on the boat.

Ask for Tickets via N. Y. & N. E. R. R.

Office 322 Washington st., Depot foot Summer st., Boston.

S. M. FELTON, JR., Gen'l Manager. A. C. KENDALL, Gen'l Pass. Agent.

STRIKING HEAD LINES.

Are used to call attention to the fact that this is an advertisement of the **CHICAGO, MILWAUKEE & ST. PAUL RAILWAY.**

Its **EIGHT** Trunk Lines traverse the best portions of **Northern Illinois, Wisconsin, Minnesota, Dakota** and **Iowa.**

Located directly on its lines are the cities of **CHICAGO, Milwaukee, La Crosse, Winona, St. Paul, Minneapolis, Madison, Prairie du Chien, Mason City, Sioux City, Yankton, Albert Lea, Aberdeen, Dubuque, Rock Island, Cedar Rapids,** and **Council Bluffs,** as well as innumerable other principal business centers and favorite resorts; and passengers going West, North, South or East are able to use the **CHICAGO, MILWAUKEE & ST. PAUL RAILWAY** to the best advantage.

Ticket offices everywhere are supplied with Maps and Time Tables which detail the merits of the line, and agents stand ready to furnish information, and sell tickets at cheapest rates over the **Chicago, Milwaukee & St. Paul Railway.**

S. S. MERRILL, General Manager. A. V. H. CARPENTER, Gen. Pass. and Tick. Agt.

J. T. CLARK, General Sup't. GEO. H. HEAFFORD, Ass't Gen. Pass. Agt.

HOUSATONIC RAILROAD.

THE ONLY LINE RUNNING

THROUGH CARS

Between New York, Great Barrington, Stockbridge, Lenox, and Pittsfield—the far-famed resorts of the

Berkshire Hills

of Western Massachusetts—the "*Switzerland* of America."

Two through trains daily between New York City and all points on the Housatonic Railroad, from the Grand Central Depot via the New York, New Haven, and Hartford Railroad at 9:09 A. M. and 3:39 P. M.

Descriptive Guide-Book sent free by mail upon application to the General Ticket Agent.

H. D. AVERILL, *Gen'l Ticket Agent.*
W. H. YEOMANS, *Superintendent.*

General Offices Bridgeport, Ct. Dec. 27, 1882.

"Progressive and Reliable."

—:o:—

"Under its present management,

THE ERIE RAILWAY

is become the most progressive and reliable Trunk Line in America."—*Cleveland Leader.*

THE ERIE

is the **SAFE and COMFORTABLE Line** between the East and West. Its equipment is unsurpassed—**Pullman Coaches, Westinghouse Air-Brake, Miller Safety Platform, Cars Lighted by Gas, Steel Rails, Double Track.**

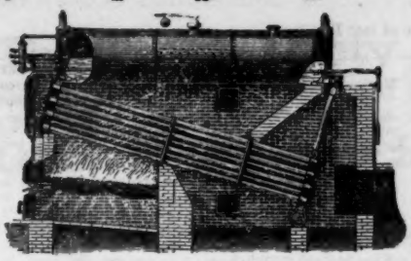
☞ The scenery along the line includes such great Works of Nature as **Niagara Falls, Watkin's Glen, Portage Falls** and **Gorge,** the **Great Lakes** and the **Lakes** of **Central** and **Western New York,** making it truly the "LANDSCAPE ROUTE OF AMERICA."

E. S. BOWEN, *Gen. Supt., N. Y.* JNO. N. ABBOTT, *Gen'l Pass'r. A'gt., N. Y.*

RAILROAD EARNINGS.—MONTHLY.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Burl., Cedar Rap. & Northern:													
1880	184,316	165,170	188,325	141,652	149,504	153,378	143,432	160,160	179,804	204,991	189,330	193,419	2,053,484
1881	167,750	124,510	148,551	184,680	165,630	205,912	174,351	209,112	221,801	221,748	202,180	232,812	2,259,037
1882	252,823	225,631	224,107	178,304	199,278	211,257	198,476	224,921	261,439	300,155	278,439	246,062	2,800,679
Central Pacific:													
1880	1,200,615	1,070,487	1,373,438	1,356,716	1,778,488	1,724,930	1,840,067	1,973,438	1,994,997	1,120,229	2,199,466	1,905,221	20,508,113
1881	1,602,907	1,454,218	1,709,638	1,873,370	2,091,411	2,159,382	1,899,346	2,088,519	2,185,303	2,507,857	2,297,071	2,225,170	24,094,101
1882	1,839,469	1,720,675	1,969,737	2,054,687	2,342,298	2,229,105	2,076,648	2,350,557	2,495,445	2,424,549	2,242,000	1,968,000	25,713,150
Chesapeake and Ohio:													
1880	202,335	198,681	222,762	221,559	199,443	214,352	238,236	259,110	247,303	211,820	240,795	218,000	2,674,308
1881	162,540	184,389	228,479	227,343	252,235	241,135	225,096	262,858	247,144	236,306	230,022	203,562	2,702,762
1882	210,455	209,708	208,981	267,454	255,939	260,753	306,831	371,175	332,219	347,882	287,850	.....	.....
Chicago and Alton:													
1880	534,054	497 013	626,473	542,961	616,128	617,524	708,906	761,120	767,349	785,199	696,776	574,695	7,718,198
1881	487,890	461,641	529,915	558,190	548,556	635,860	676,205	769,751	774,790	771,844	672,380	646,812	7,557,741
1882	579,447	530,480	584,483	561,787	553,412	613,886	671,537	800,624	881,109	812,032	748,151	699,323	8,211,988
Chicago and Northwestern:													
1880	1,154,632	1,131,683	1,361,725	1,294,573	1,875,608	1,671,177	1,699,686	1,767,938	2,020,245	2,105,217	1,855,622	1,477,902	19,416,007
1881	1,240,664	963,204	1,178,795	1,474,612	1,879,006	2,306,440	1,983,032	2,315,164	2,292,676	2,341,098	2,019,038	1,855,477	21,849,209
1882	1 644,935	1,474,176	1,672,931	1,668,741	2,110,947	2,022,700	2,025,736	2,099,755	2,497,053	2,532,100	2,069,287	1,718,379	23,828,973
Chicago, Burlington and Quincy:													
1880	1,432,740	1,411,870	1,732,518	1,489,894	1,909,627	1,682,956	1,773,643	1,834,321	1,862,285	1,034,762	1,837,860	1,552,018	20,454,494
1881	1,307,948	1,034,821	1,418.149	1,574,371	1,679,455	2,083,803	1,888,358	2,173,945	2,262,981	2,031,001	1,816,133	1,905,490	21,324,150
1882	1 658,834	1,457,300	1,566,217	1,530,838	1,505,261	1,437,164	1,625,006	2,086,858	2,186,400	2,270,444	2,199,491	.....	.....
Chicago, Milwaukee and St. Paul:													
1880	764,298	738,749	900,675	871,041	1,134,745	1,037,958	1,026,708	991,297	1,257,67-	1,493,620	1,472,037	1 397,308	13,086,119
1881	990,847	682,717	916,989	1,259,946	1,538,491	1,720,811	1,568,706	1,678,361	1,644,67c	1,591,052	1 560.597	1,854 269	17,025,456
1882	1,435,000	1,377,000	1,561,000	1,518,000	1,629,000	1,620,000	1,465,000	1,545,000	1,950,000	2,251,000	2,072,000	1,964,000	20,386,999
Chicago, St. Paul, Minneapolis and Omaha:													
1880	193,827	173,078	259,783	259,208	232,146	218,093	236,995	251,013	300,833	342,052	342,894	312,173	3,122,097
1881	257,786	158,594	251,648	261,211	350,124	404,567	383,202	385,286	373,370	370,129	392,921	432,615	3,981,296
1882	307,498	315,100	405,779	356,558	406,420	363,109	331,480	394,555	482,997	546,671	517,595	375,796	4,973,652
Cincinnati, Indianapolis, St. Louis and Chicago:													
1880	155,697	172,541	198,220	168,199	186,995	200,332	204,138	233,478	343,627	239,881	209,014	198,254	2,412,185
1881	182,523	171,511	191,005	183,710	191,066	192,299	177,161	229,858	228,653	221,320	211,614	195,809	2,296,916
1882	200,042	186,879	208,066	204,269	199,110	195,948	209,564	.....	259,379	.....	219,732	189,956	2,645,530
Denver and Rio Grande:													
1880	124,759	126,922	160,883	164,882	193,925	295,455	373,132	400,133	406,583	473,318	408,562	349,196	3,478,007
1881	307,476	317,681	398,493	433,111	514,767	584,230	548,284	606,193	589,287	638,432	547,055	624,728	6,206,812
1882	491,914	412,987	535,055	559,917	614,298	537,462	495,797	574,040	595,306	630,598	512,965	626,728	6,349,057
Hannibal and St. Joseph:													
1880	176,079	166,965	216,061	206,735	191,317	179,396	224,312	238,081	233,448	242,214	207,147	279,635	2,561,366
1881	154,401	122,874	176,356	190,812	172,950	190,740	201,899	210,240	215,103	231,913	195,607	180,376	2,230,961
1882	125,601	152,691	162,475	150,481	151,999	147,526	184,609	254,569	239,732	238,563	249 252	239,891	2,303,388
Illinois Central:													
1880	595,212	613,806	613,008	535,732	665,120	681,736	724,095	732,755	806,836	880,211	783,120	673 182	8,304,812
1881	631,281	524,499	557,789	662,493	673,259	803,887	720,004	868,407	828,847	815,238	737 218	763,475	8,586,397
1882	746,744	697,274	686,228	640,014	674,749	663,746	752,251	813,600	828,238	865,325	752,144	697,051	8,831,281
Indiana, Bloomington and Western:													
1880	80,498	89,690	116,185	90,374	85,733	106,954	103,438	116,732	110,622	121,343	95,621	104,619	1,233,079
1881	90,283	83,261	192,085	203,677	200,064	199,840	190,125	272,114	247,232	225,678	200,450	192,622	2,487,569
1882	195,824	175,755	206,235	205,934	182,554	186,13	206,072	278,814	273,100	269,046	256,998	205,212	2,641,675
Louisville and Nashville:													
1880	674,455	575,935	612,593	563,883	655,014	976,229	772,538	827,089	931,911	1,000,327	953,087	949,185	9,491,346
1881	812,118	805,124	947,959	855,704	828,726	1,227,885	817,135	876,192	951,566	1,002,950	1,065.223	1,153,779	11,344,361
1882	964,527	960,315	1,068,834	953,603	958,130	1,215,490	1,063,765	1,043,912	1,114,513	1,215,932	1,192.390	1,221,215	12,981,140
Mobile and Ohio:													
1880	250,116	204,095	168,302	140,091	129,248	121,855	131,621	140,593	184,247	264,714	251,368	287,372	2,273,622
1881	224,347	216,768	230,916	163,551	145,803	136,517	135,549	160,789	210,202	256,924	262,986	258,212	2,403,224
1882	159,676	158,590	148,166	141,957	134,378	136,184	135,174	137,475	157,874	267,433	295,110	307,643	2,179,666
Nashville, Chattanooga and St. Louis:													
1880	205,634	191,154	169,457	155,466	158,839	144,130	151,594	169,326	167,473	178,266	182,087	175,966	2,049,484
1881	178,143	190,866	207,710	183,525	104,430	154,549	150,430	168 317	179,979	172,121	152,059	173,127	2,075,943
1882	156,994	159,961	161,005	154,155	135,556	119,074	160,991	168,304	168,999	180,319	181,336	201,082	3,408,169
New York and New England:													
1880	164,932	149,907	183,845	179,689	183,701	219,891	205,056	249,885	235,642	215,491	210,856	198 108	2,396,302
1881	189,749	173,614	212,019	216,913	217,185	231,518	246,821	280,524	299,573	261,200	240,764	240,063	2,809,255
1882	213,840	217,261	265,222	261,044	289,722	295,392	289,441	346,490	338,347	310,145	276,183	.....	.....
New York, Lake Erie and Western:													
1879	1,147,173	1,207,391	1,356,780	1,372,755	1,350,574	1,230,419	1,273,533	1,450,223	1,492,497	1,713,697	1,515,835	1,398,224	16,509,127
1880	1,296,381	1,252,218	1,644,958	1,643,151	1,592,544	1,661,812	1,580,976	1,606,874	1,786,417	1,899,010	1,799,338	1,726,788	19,149,361
1881	1,443,437	1,425,765	1,847,261	1,709,057	1,776,891	1,794,982	1,787,081	1,772,895	1,734,200	1,814,866	1,715,469	.....	.....
Northern Central:													
1880	334,494	330,860	415,325	386,130	329,788	419,193	450,298	453,923	464,093	512,918	459,054	494,310	5,050,387
1881	386,157	382,657	452,906	487,273	465,588	487,287	440,811	498,008	429,565	449,664	487,160	476,622	5,443,697
1882	407,368	413,551	430,194	435,129	482,607	482,752	509,683	667,488	592,435	550,225	526,685	490,003	5,800,176
Northern Pacific:													
1880	81,390	77,259	119,357	185,700	217,613	253,105	241,277	223,500	330,300	358,456	300,822	220,993	2,629,710
1881	116,508	78,803	162,084	216,210	312,705	412,024	393,260	434,085	534,363	583,555	475,610	439,724	4,044,576
1882	245,369	268,935	373,141	451,023	616,231	704,617	694,067	727,215	772,838	829,831	761,324	564,749	7,009,341
Philadelphia and Erie:													
1880	224,307	245,372	327,678	334,947	311,470	331,024	308,699	347,532	322,737	367,082	324,966	281,919	3,727,733
1881	224,303	225,501	285,573	293,323	343,792	350,585	291,669	303.849	276,522	292,392	284,078	282.772	3,454,309
1882	252,727	245,246	265,311	277,851	341,415	347,614	377,206	420,329	386,455	397,164	369,583	335,513	4,011,413
St. Louis and San Francisco:													
1880	198,091	195,948	193,146	176,164	167,664	173,607	213,297	259,995	280,873	328,194	290,329	226,063	2,698,371
1881	212,435	178,224	262,050	265,298	283,399	260,254	252,333	286,373	279,064	308,569	284,320	287,914	3,160,245
1882	256,784	244,654	274,959	242,806	253,419	240,177	318,613	381,637	336,805	360,900	331,490	339,424	3,582,811
St. Louis, Alton and Terre Haute:													
1880	153,139	163,737	168,994	155,462	147,928	150,207	191,077	216,759	204,295	221,863	188,773	184,503	2,146,741
1881	175,725	166,012	201,137	197,447	172,177	165,896	165,393	189,180	196,368	204,338	169,795	171,127	2,112,801
1882	168,987	149,619	178,145	157,450	162,842	142,742	192,017	236,137	217,659	229,962	206,040	184,526	2,245,320
St. Louis, Iron Mountain and Southern:													
1880	555,983	490,195	451,560	408,241	349,053	363,454	432,655	565,869	671,219	688,365	632,032	656,951	6,265,597
1881	570,957	560,791	704,002	548,300	479,075	474,302	533,512	644,386	708,325	719,239	687,271	709 498	7,319,744
1882	516,370	501,127	585,008	581,977	519,120	529,700	515,519	675,981	724,160	809,394	843,973	781,305	8,764,772
St. Paul, Minneapolis and Manitoba:													
1880	180,239	137,645	261,798	333,014	281,899	243,407	272,089	232,579	274,188	345,057	300,675	297,641	3,160,231
1881	254,187	159,482	320,962	425,685	382,642	405,322	387,488	414,954	485,736	605,708	508,530	528,262	4,878,960
1882	395,461	418 358	531,004	570,890	858,902	856,417	853,296	801,759	832,776	979,057	913,335	753,515	8,764,722
Texas and Pacific:													
1880	245,785	219.165	215,070	174,177	141,083	153,066	195,711	226,073	266,570	303,666	312,184	301,858	2,754,40
1881	281,176	260,781	319,928	295,066	281,782	285,405	328,063	381,331	345,790	419,203	369,521	401,058	3,921,569
1882	310,785	255,644	332,911	359,543	409,228	384,713	367,215	439,918	470,613	541,901	619,655	641,044	5,143,179
Union Pacific Railway:													
1880	1,433,636	1,393,992	1,730,509	1,937,220	2,027,269	1,928,528	1,934,215	1,913.035	2,270,179	2,707,860	2,251,148	1,869,335	23,448,445
1881	1,339,799	1,374,740	1,674,860	1,766,894	2,319,238	2,884,774	2 528,826	2,638 659	2,844,357	3,169,530	2,723,608	2,267,004	29,776,899
1882	1,961,088	1,759,863	2,226,832	2,462,004	2,491,590	2,508,453	2,301,000	2,762,107	2,949,112	3,158,337	2,821,070	2,294,000	30,088,190
Wabash, St. Louis and Pacific:													
1880	776,790	759,451	978,629	892,024	948,773	953,468	1,966,742	1,289,478	1,178,050	1,501,203	1,131,787	1,050,816	12,428,119
1881	811,617	818,922	1,121,592	1,023,482	1,144,660	1,308,093	1,131,752	1,542,838	1,490,027	1,397,781	1,343,256	1,294,657	14,467,790
1882	1,220,065	1,134,768	1,325,776	1,378,194	1,204,864	1,149,632	1,418,837	1,772,544	1,689,382	1,595,680	1,525,723	1,331,932	16,738,360

WATER TUBE STEAM BOILERS.



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By this means we get the largest percentage of circulation of air, which keeps the bars cool and prevents them from burning or warping. There is also fully ten per cent of fuel saved, as it does away with the necessity of opening the furnace door and shaking the fire, and thus preventing large volumes of cold air rushing in and producing sudden expansions and contractions, frequently blistering the bottom of the boiler.

This bar has two very superior qualities which no shaking grate ever possessed. The first is a large friction roller at each end of the bar, thus enabling it to be moved back and forth with the greatest ease, though the bar be ever so large and heavy. The second is the header at the end of every bar, thus absolutely protecting the bar from all obstructions of coal and clinkers, that otherwise might get at the end of the bar and stop it's working. This header also affords plenty of expansion and contraction room for the bars. The first set of these bars ever made has been in constant use for some four and one-half years, without any expense except first cost, and the party using them prefers them to any other bar in use.

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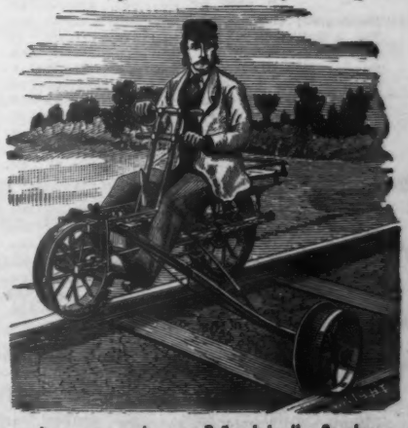

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ALBION, INDIANA.

RAILROAD, TRAMWAY AND CANAL DIVIDEND STATEMENT.

Showing the amount of Stock Outstanding, the Dividend Periods and the date of last Dividend.

Marked thus(*)are leased roads.	Stock outstanding.	Divide'd Periods.	Last Dividend Payable.
Albany and Susq*...100	2 500,000	semi-an	Jan. '83 2
Atch., Top. and S. Fe100	54,000,000	q'arterly	Feb. '83 1½
Atlanta and W. Point100	1,232,200	semi-an	Feb. '83 6
Atlantic and St. Law*100	5,840,000	semi-an	Mar. '83 3
Augusta and Savan'h100	1,022,900	semi-an	Dec. '82 3½
Avon,Genesee&MtM*100	225,000	semi-an	Jan. '82 3
Baltimore and Ohio.100	14,792,566	semi-an	Nov. '82 5
" " pref.100	5,000,000	semi-an	Jan. '83 3
Washington Br....100	1,650,000	semi-an	Nov. '82 5
Berkshire*.....100	600,000	q'arterly	Apl. '82 1¾
Boston and Albany..100	20,000,000	q'arterly	Mar. '83 2
Bos.&N.Y.AirLine pf.100	2,795,227	q'arterly	June'82 1
Bos.,Cl.,F.&N.B.pref.100	1,750,100	semi-an	Oct. '82 3½
Bos.,Conc.&Mont.pf*100	800,000	semi-an	Nov. '82 3
Boston and Lowell..500	3,940,000	semi-an	Jan. '83 2½
Boston and Maine...100	6,921,274	semi-an	Nov. '82 4
Boston & Providence100	4,000,000	semi-an	Nov. '82 4
Attleborough Br...100	131,700	semi-an	Jan. '83 3½
Bos.,Revere B &Lynn100	419,400	semi-an	Jan. '83 3
Buffalo,N. Y. & Erie*.100	950,000	semi-an	Dec. '82 3
Buff.,N. Y. Phila.pref. 50	6,000,000	q'arterly	Mar. '83 1½
Camden & Atlantic.. 50	377,400	q'arterly	Nov. '82 3
" " pref. 50	880,650	q'arterly	Nov.'82 4
Camden & Burl. Co..100	381,925	semi-an	Jan. '83 3
Canada Southern....100	15,000,000	.....	Feb. '81 2½
Cape May & Millville* 50	447,000	semi-an	Dec. '82 3
Catawissa*..... 50	1,159,500	annual	Oct.'82$2½
" pref..... 20	2,200,000	semi-an	Nov. '82 3½
" new pref.. 50	1,000,000	semi-an	Nov. '82 3½
Cayuga and Susq.*.. 50	589,110	semi-an	Jan. '83 4½
Cedar Rapids&Mo.R*100	6,850,400	q'arterly	Feb. '83 1½
" " pref.100	769,600	semi an	Feb. '83 3½
Central of Georgia...100	7,500,000	semi-an	Dec. '82 4
Central of New Jersey100	18,563,200	q'arterly	July '76 2½
Central Ohio*..... 50	2,437,950	semi-an	Jan. '83 3
" pref.... 50	411,550	semi-an	Jan. '83 3
Central Pacific 100	59,275,500	semi-an	Feb. '83 3
Cheshire preferred ..100	2,155,300	semi-an	Jan. '83 1½
Chicago and Alton...100	11,181,741	semi-an	Mar. '83 4
" " pref 100	2,245,400	semi-an	Mar. '83 4
Chi., Burl. & Quincy.100	69,508,105	q'arterly	Mar. '83 2
Chi., Iowa & Nebras*.100	3,916,200	semi-an	Jan. '83 4
Chi., Mil. & St. Paul.100	20,404,261	semi-an	Apl. '83 3½
" " pref 100	14,401,483	semi-an	Apl. '83 3½
Chi. & N. Western...100	14,988,257	semi-an	Dec. '82 3½
" pref 100	21,525,353	q'arterly	Mar. '83 2
Chi., R. I. & Pacific..100	41,960,000	q'arterly	May '83 1¾
Chi. and West Mich .100	6,151,000	semi-an	Feb. 83 3
Chi.,St.P.,M.&O.pref.100	10,390,000	q'arterly	Apl. '83 1¾
Cin.,Ham.&Dayton ...100	3,500,000	semi-an	Jan. '83 3
C., Ind., St. L. & Chi..100	6,000,000	q'arterly	Jan. '83 1½
Cin., Sand. & Clev.pf. 50	429,037	semi-an	Nov. '82 3
Clev. Col.,Cin. & Ind.100	14,991,800	.....	Feb. '83 2
Clev. and Pittsburg* 50	11,244,336	q'arterly	Mar. '83 1¾
Columbus & Xenia*. 50	1,786,200	q'arterly	Mar. '83 2
Col.,Hock.Val.&Tol..100	10,316,500	.....	Jan. '83 2½
Concord 50	1,500,000	semi-an	Nov. '82 5
Concord and Ports.*.100	350,000	semi-an	Jan. '83 3½
Conn.& Passump.Riv100	2,244,400	semi-an	Feb. '83 3
Connecticut River ..100	2,100,000	semi-an	Jan. '83 4
Cumberland Valley.. 50	1,292,950	q'arterly	Apl. '83 2½
" 1st pref 50	241,900	semi-an	Apl. 83 4
" 2d pref. 50	243,000	semi-an	Apl. '83 4
Danbury & Norwalk. 50	600,000	semi-an	Apl. '83 2½
Dayton and Mich.*.. 50	2,402,573	semi-an	Apl. '83 1¾
" " pref. 50	1,211,250	q'arterly	Jan. '83 2
Delaware*..... 25	1,468,940	semi-an	Jan. '83 3
Del. & Bound Brook*100	1,652,000	q'arterly	Feb. '83 1¾
Del., Lack.& Western 50	26,200,000	q'arterly	Jan. '83 2
Denver & Rio Grande.100	29,160,000	q'arterly	Jan. '82 1½
Detroit, Lans. & Nor.100	1,825,600	semi-an	Feb. '83 3
" " pref.100	2,508,380	semi-an	Feb. '83 3½
Dubuque&Sioux C'y*100	5,000,000	semi-an	Apl. '83 3
East Pennsylvania*.. 50	1,709 550	semi-an	Jan. '83 3
East Mahanoy*..... 50	392,950	semi-an	Jan. '83 3
Eastern (N. H.).....100	492,500	semi-an	Dec. '82 2½
Eel River.....100	3,000,000	q'arterly	Mar. '83 $1
Elmira&Williamsp't* 50	500,000	semi-an	Nov. '82 1½
" " pref. 50	500,000	semi-an	Jan. '83 3½
Erie and Pitsburg*.. 50	1,998,400	q'arterly	Dec. '82 1¾
Evansville & Terre H.100	100,000	semi-an	Jan. '83 6b
Fitchburg..... 100	4,500,000	semi-an	Jan. '83 3
F. & P. Marquette pf.100	6,500,000	semi-an	Jan. '83 3½
Ft.Wayne & Jack. pf..100	2,000,000	.....	May '82 2
Georgia. 100	4,200,000	q'arterly	Apl. '83 2½
Granite 100	1,250,000	semi-an	Jan. '83 3
Greenw'h&Johnsonv.100	118,000	semi-an	Jan. '83 4
Han. & St. Jo. pref...100	5,083,024	semi-an	Feb. '83 3
Harrisbg&Lancaster. 50	1,182,500	semi-an	Jan. '83 3
H'ford &Conn.West'n 100	2,700,000	.....	Nov. '82 3½
Housatonic pref. ...100	1,180,000	q'arterly	Apl. '83 2
Illinois Central.....100	39,000,000	semi-an	Mar. '83 4
Ia.Falls & Sioux City*100	4,623,500	q'arterly	Mar. '83 1¾
Iowa R.R.& Land Co.100	7,620,000	q'arterly	Feb. '83 1
Jeffersonv. Mad.&Ind100	2,000,000	q'arterly	May '82 1¾
Joliet and Chicago*...100	1,500,000	q'arterly	Jan. '83 1¾
Kan. C.,Ft.S.&Gulf...100	4,000,000	.....	Feb. '83 3
" " pref..100	2,750,000	semi-an	Feb. '83 4
Kentucky Central....100	500,000	semi-an	June'81 1
" " pref...100	5,583,500	semi-an	June'81 1
Lake Shore &Mich.So.100	49,466,500	q'arterly	May '83 2
" " (guar.)100	533,500	semi-an.	Feb. '83 5
Lawrence*..... 50	450,000	q'arterly	Jan. '83 2
Lehigh Valley..... 50	27,496,895	q'arterly	Jan. '83 2
" " pref. 50	106,300	q'arterly	Apl. '83 2

Marked thus(*)are leased roads.	Stock outstanding.	Divide'd Periods.	Last Dividend Payable.
Little Miami..... 50	4,637|300	q'arterly	Mar. '83 2
Little Rock & Ft. S..100	4,096,135	.....	July' 81 10s
Little Schuylkill*... 50	2,646,100	semi-an.	Jan. '83 3½
Long Island..... 50	10,000,000	q'arterly	Feb. '83 1
Louisville & Nashv..100	25,000,000	semi-an.	Feb. '82 3
Lowell & Andover...100	500,000	semi-an.	Jan. '83 3½
Lykens Valley 100	600,000	q'rterly.	Jan.' 83 2½
Maine Central.....100	3,603,300	semi-an.	Feb. '83 2½
Manchester & Law.. 00	1,000,000	semi-an.	Nov. '82 5
Manhattan 100	13,000,000	.....	.....
" " 1st pref.100	6,500,000	q'rterly.	Apl. '83 1½
" " 2d pref.100	6,500,000	q'rterly.	Jan. '83 1½
Marq.Hout.& Ont.....100	2,306,600	.....	Feb. '83 4
" " pref...100	2,259 026	semi-an.	Feb. '83 4
Massawippi*..... 100	400,000	semi-an.	Feb. '83 3
Metropolitan 100	6,500,000	q'rterly	Oct. '82 1½
Michigan Central....100	18,738,204	.....	Feb. '83 2
Middlesex Central...100	280,000	semi-an.	Feb. '83 3
Mill Creek&Minehill* 50	323,000	semi-an.	Jan. '83 5
M.Hill& Schuyl.Hav* 50	4,022,500	semi-an.	Jan. '83 3½
Missouri Pacific.....100	28,169,800	q'rterly.	Apl. '83 1¾
Mobile&Montgomery100	3,022,517	semi-an.	Feb. '80 2½
Morris and Essex.... 50	15,000,000	semi-an.	Jan. '83 3½
Mt Carbon&PtCarbon 50	282,350	semi-an.	Jan. '83 6
Nashua and Lowell..100	800,000	semi-an.	Nov. '82 4
Nashua & Rochester.100	1,305,800	semi-an.	Oct. '82 1½
Nashv. & Decatur...100	1,827,000	semi-an.	Dec. '82 3
Nash.,Chat.&StLouis 25	6,670,325	semi-an.	Apl. '82 1½
Naugatuck.....100	2,000,000	semi-an.	Jan. '83 5
Nesquehoning Val'y* 50	1,300,000	semi-an.	Mar. '83 3
N.Castle&Beaver Val* 50	600,000	q'rterly.	Jan. '83 —
New London North'n*100	1,500,000	q'rterly.	Jan. '83 1½
N. Y. Cen. & Hud. R.100	89,428,330	q'rterly.	Apl. '83 2
N. Y. and Harlem.....100	7,950,000	q'rterly.	Jan. '83 4
" " pref.100	1,500,000	q'rterly.	Jan. '83 4
" City Line.. —	.....	annual	Apl. '83 2
N. Y., Lack. & West..100	10,000,000	q'rterly	Apl. '83 1½
N.Y.,LakeErie& West.100	77,087,600	.....	.....
" " pref.100	7,987,500	annual..	Jan. '83 6
N. Y., N. H. & Hart..100	15,500,000	semi-an.	Jan. '83 5
N. Y., Ont. & West...100	2,000,000	.....	Mar. '83 12
N. Y., Prov. & Boston100	3,000,000	q'rterly.	Feb. '83 2
Ning.Bridg&Canand*100	1,000,000	semi-an.	Oct. '82 3
North Carolina*..... 100	3,000,000	semi-an.	Mar. '83 3
" " pref.100	1,000,000	semi-an.	Mar. '83 3
Norfolk & Western pref.	15,000,000	q'rterly.	Dec. '82 $1
North Pennsylvania. 50	4,527,150	q'rterly.	Feb. '83 1¾
Northern Central.... 50	6,142,000	semi-an.	Jan. '83 4
Northern N. Hampsh100	3,068,400	semi-an.	Dec. '82 3
Northern Pacific pref100	41,909,132	.....	Jan. '83 11.1
Norwich&Worcester*100	2,604,400	semi-an.	Jan. '83 5
Oregon &Transcont'l.100	40,000,000	q'rterly.	Apl. '83 1½
Old Colony 100	7,333,800	semi-an.	Jan. '83 3½
Oregon Improv. Co....100	5,000,000	semi-an.	Mar. '83 3½
Oregon R'way&Nav.100	18,000,000	q'rterly.	Feb. '83 2½
Oswego & Syracuse..100	1,320,400	semi-an.	Feb. '83 4½
Panama..... 100	7,000,000	semi-an	Jan. '83 6½
Paterson & Hudson*.100	630,000	semi-an.	Jan. '83 4½
Paterson & Ramapo.100	248,000	semi-an.	July '82 4
Pember.&Hightst'n*. 50	342,150	semi-an.	Jan. '83 3
Pennsylvania.. 50	83,786,570	semi-an.	Nov. '82 4½
Pennsylvania Co.. .. 50	20,000,000	annual	Dec. 82 4
Peoria & Bureau Val*100	1,200,000	semi-an.	Feb. '83 4
Philadelphia & Erie*. 50	7,013,700	semi-an.	.....
" " pfd 50	2,400,000	semi-an.	Jan. '75 4
Phil,Ger.&Norrist'n* 50	2,231,900	q'rterly.	Dec. '82 3
Phil. and Reading... 50	32,726,375	q'rterly.	Jan. '76 2½
" " pref. 50	1,551,800	q'rterly.	July '76 3½
Phila. and Trenton..100	1,259,100	q'rterly.	Apl. '83 2½
Phila., Wil. and Balt. 50	11,585,750	semi-an.	Jan. '83 4
Pittsb. Ft. W. & Chi.*100	19,714,285	q'rterly.	Jan. '83 1¾
" Special Imp.100	6,770,900	q'rterly.	Jan. '83 1¾
Pittsfield&N.Adams..100	450,000	semi-an.	Jan. '82 2½
Portl., Saco & Portsm100	1,500,000	semi-an.	Jan. '83 3
Providence &Worces.100	2,000,000	semi-an.	Jan. '83 3
Rensselaer&Saratog.*100	7,000,000	semi-an.	Jan. '83 4
Richmond& Danv...100	5,000,000	q'rterly.	Aug. '82 2
Richmond & Petersb100	1,009,300	semi-an.	Aug. '82 2
Roch.&Genesee Val.*100	555,200	semi-an.	Jan. '83 3
Rome Water.&Ogdens100	5,293,900	.....	Jan. '83 3
Rutland preferred.. 100	4,000,000	semi-an.	Sept. '82 1
SpuytenDu'vil&Pt.M.100	989,000	semi-an.	Jan '83 4
St.L.,Alt. & T.H.pref.100	2,468,406	.....	Dec. '82 4
St.L.&S.Fran.1st pref100	4,500,000	semi-an.	Feb. '83 3½
St.L.,Jac'ville & Chic.100	1,293,000	.....	Aug. '82 4½
" " pref.100	1,034,000	.....	Aug. '82 4½
St. P. & Duluth pref.100	4,705,000	semi-an.	Jan. '83 3½
St. P., Minn. & Man...100	20,000,000	q'rterly.	Feb. '83 2
Schuylkill Valley*... 50	576,050	semi-an.	Jan. '83 2¼
Seaboard & Roanoke.100	1,229,600	semi-an.	Nov. '82 5
Shamokin V.&Pottsv 50	669,450	semi-an.	Feb. '83 3
Shore Line*.....100	1,000,000	semi-an.	Jan. '83 4
Sioux C.&Pacific pref100	169,000	semi-an.	Oct. '82 3½
South Br. (N. J.)*....100	438,300	semi-an.	Jan. '83 3
South Western (Ga.)*100	3,892,300	semi-an.	Dec. '82 3½
Stockbridge&Pitts.*.100	448,700	q'rterly	Jan. '83 1½
Syr.,Bingham&N.Y.*100	2,500,000	semi-an.	Feb. '83 2
Terre Haute & Ind....100	1,988,150	semi-an.	Feb. '83 4
Union Pacific. 100	60,854,105	q rterly.	Apl. '83 1¾
United Cos of N. J.*.100	20,490,000	q'rterly.	Apl. '83 2½
Utica, Shenango&S V100	4,000,000	semi-an.	Nov.'82 3
Utica and Black Riv.100	1,772,000	semi-an.	Sept '82 2
Vermont and Mass..100	3,050,000	semi-an.	Oct. '82 3
Vermont Valley.....100	1,000,000	.....	Jan. '83 3
Wab. St L.&Pac.pref.100	22,615,100	q'rterly.	Nov. '81 1½

Markedthus(*)are leased roads.	Stock outstanding.	Divide'd Periods.	Last Dividend Payable.
Ware River*.....100	750,000	semi-an.	Jan. '83 3½
Warren (N. J.).....100	1,800,000	semi-an.	Oct. '82 3½
Warwick Valley.....100	340,000	semi-an.	July '82 2½
Westchest&Phil.pref100	821,300	semi-an.	July '80 2
West Jersey.....100	1,359,750	semi-an.	Mar. '83 3$
Wilmingt'n&Weld'n.100	1,456,200	semi-an.	Jan. '83 3
Wil., Col., & Aug 100	960,000	semi-an.	Jan. '83 3
Winchester&Poto'c.*100	180,000	semi-an.	Jan. '83 3
Winchester&Strasb.*100	74,700	semi-an.	Jan. '83 3
Worcester & Nashua. 75	1,789,800	semi-an.	Jan. '83 1½
TRAMWAYS.			
Albany City.....100	200,000	annual	..... '80 5½
Baltimore City..... 25	1,000,000	semi-an.	Jan. '83 3
Balt.,Cat.&El. Mills..100	80,000	semi-an.	Jan. '83 2½
Bleecker St.&Ful.F'y.100	900,000	semi-an.	July '82 ¾
Boston&Chelsea pref. 50	110,000	semi-an.	Oct. '82 3
Broadway (Brooklyn)100	250,000	q'arterly	Oct. '82 6
B'way&7th Av,(N.Y.)100	2,100,000	q'arterly	Oct, '82 2
B'klyn&Hunter's Pt.100	400,000	semi-an.	Oct. '82 6
Brooklyn City.....100	2,000,000	q'arterly	Nov. '82 3½
Bushwick (Brooklyn)100	309,000	semi-an.	Oct. '82 6
Cambridge.....100	908,600	q'arterly	Oct. '82 4½
Cen.Park,N.& E.Riv.100	1,800,000	q'rterly.	Oct. '82 6
Christoph'r&TenthSt100	650,000	semi-an.	Aug. '82 2½
Citizens' (Phil.)..... 50	192,500	q'rterly.	Jan. '82 2½
Citizens' (Pbg.)..... 50	200,000	annual..	....'80 14½
Coney Island&Bklyn100	500,000	semi-an.	Oct. '80 5
Continental (Phil.).. 50	580,000	semi-an.	Jan. '83 6
D.Dock,E.B'way&Bat100	1,200,000	q'arterly	Aug. '82 4
Eighth Av. (N. Y.)...100	1,000,000	q'rterly.	Oct. '82 3
42d St. & G. St. Ferry100	747,000	semi-an.	May '82 6
Frankf.&Southw (Ph) 50	600,000	q'rterly.	Oct. '82 6
Germantown, (Ph.).. 50	1,54c,902	q'rterly.	Jan. '83 2¼
Girard College (Ph.) . 50	500,000	semi-an.	July '71 3
Grand St. & Newton.100	170,091	semi-an.	July '81 2½
Green&Coates St.(Ph) 50	708,650	q'rterly.	Jan. '83 3
Heston,Mantau&F'm 50	299,381	semi-an.	Jan. '75 4
Highland.....100	600,000	semi-an.	Jan. '83 4
Lomb.&SouthSts(Ph) 25	195,000	semi-an.	Oct. '75 4
Lynn and Boston....100	200,000	semi-an.	Nov. '82 4
Malden and Melrose.100	165,000	....	..... .
Metropolitan (Bost.). 50	1,500,000	semi-an.	Jan. '83 4
Middlesex (Boston)..100	650,000	semi-an.	Nov. '82 3½
N.Y.,Bay Ridge&Jam100	150,000	..... .	Oct. '78 7
Ninth Av. (N. Y.)....100	797,320	....	.....
Orange &Newark.....100	282,555	....	....
People's (Phila.) pref. 25	115,250	..... .	July '82 2
Philadelphia City.... 50	475,000	semi-an.	July '82 4
Phila. and Darby.... 20	200,000	semi-an.	July '81 3½
Phila.&Grey's Ferry. 50	308,000	semi-an.	Jan. '82 6
Pbg,Alleg.&Manches. 50	300,000	q'rterly.	Oct. '81 3
Ridge Avenue (Ph.).. 50	420,000	semi-an.	Oct. '81 11
Second Avenue (N.Y.)100	1,199,500	semi-an.	July '82 4
Second&ThirdSt.(Ph) 50	771,076	q'rterly.	Jan. '83 4
17th &19th sts (Ph.).. 50	250,000	semi-an.	July '81 3
Sixth Avenue (N. Y.)100	750,000	semi-an.	May '82 5
Somerville (Boston).100	113,000	semi-an.	Nov. '82 3
South Boston..... 50	600,000	semi-an.	Jan. '83 4
Third Avenue, N. Y..100	2,000,000	q'rterly.	Aug '82 5
13th and 15th sts.,Ph 50	334,529	q'rterly.	Jan. '83 4
23d street, N. Y.....100	600,000	semi-an.	Aug. '82 4
Union, Boston.....100	374,300	semi-an.	Jan '82 4
Union, Phila..... 50	1,005,000	semi-an.	Jan. '82 7
West Philadelphia... 50	750,000	semi-an.	July '77 10
CANALS.			
Chesapeake and Dela 50	2,078,038	semi-an.	June'75 2
Delaware Division... 50	1,633,350	semi-an.	Feb. '83 2
Delawa. and Hudson100	20,000,000	q'rterly.	Mar. '83 1¾
Delaware & Raritan*.100	5,847,400	q'rterly.	Apl. '83 2½
Lehigh Coal and Nav 50	11,204,250	semi-an.	Dec. '82 2
Monongahela Nav... 50	1,004,500	semi-an.	Jan. '83$3
Morris, consolidated.100	1,025,000	semi-an.	Feb. '83 2
" preferred....100	1,175,000	semi-an.	Feb. '83 5
Pennsylvania..... 50	4,501,200	.....	.....
Schuyl. Nav., com.*. 50	859,100	annual..	Oct.'82 50c.
" " pref... 50	3,200,000	annual..	Oct. '82 $1
MISCELLANEOUS.			
Adams Express.....100	12,000,000	q'rterly.	Dec. '82 2
American Express... 50	18,000,000	semi-an.	Jan '83 3
Amoskeag Manuf.Co.100	3,000,000	semi-an.	June'81 5
Calumet&HeclaMin'g 25	100,000 S.	q'rterly.	Feb. '83 $5
Central Mining Co....100	.....	annual.	Feb. '83 $3
Consolidation Coal..100	10,250,000	semi-an.	Jan. '82 2
George's Creek C.&I.100	.....	semi-an.	Jan. '83 3
Maryland Coal 100	4,400,000	semi-an.	Feb. '76 1½
Mariposa L. &Mining100	10,000,000	..... .	.....
" pref100	5,000,000	..... .	.....
Missouri Val.LandCo100	200,000	semi-an.	Jan. '83 $6
National Tube Works100	2,000,000	q'rterly.	Jan. '83 2
Pac. Mail Steamship.100	20,000,000	q'rterly.	Sept.'69 3
Pennsylvania Coal.... 50	5,000,000	q'rterly.	Feb. '83 3
Pullman Palace Car...100	10,032,800	q'rterly.	Feb. '83 2
Quicksilver, com....100	5,708,700	..... .	May '82 0.4
" pref....100	4,291,300	..... .	May '82 6
Quincy Mining Co... 25	40,000 shs	semi-an.	Feb. '83 $6
Quincy R. R. Bridge.100	1,750,000	semi-an.	Jan. '83 5
SiouxC.&I.F.L.&L.Co100	500,000	semi-an.	Dec. '82 3½
Spring Mt. Coal.....100	1,500,000	semi-an.	Dec. '82 3½
Topeka Equip'nt Co.100	255,500	semi-an.	Oct. '82 5
United States Ex....100	7,000,000	q'rterly	Feb. '83 1
Wells-Fargo & Co. Ex100	6,250,000	semi-an.	Jan. '83 4
Western Union Tel..100	80,000,000	q'rterly.	Apl. '83 1¾

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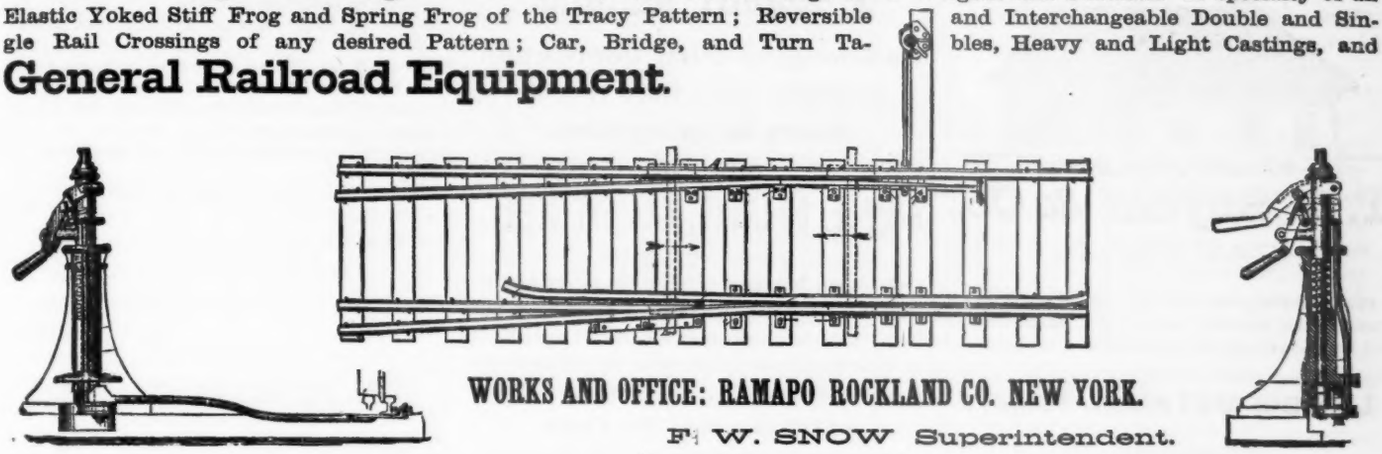

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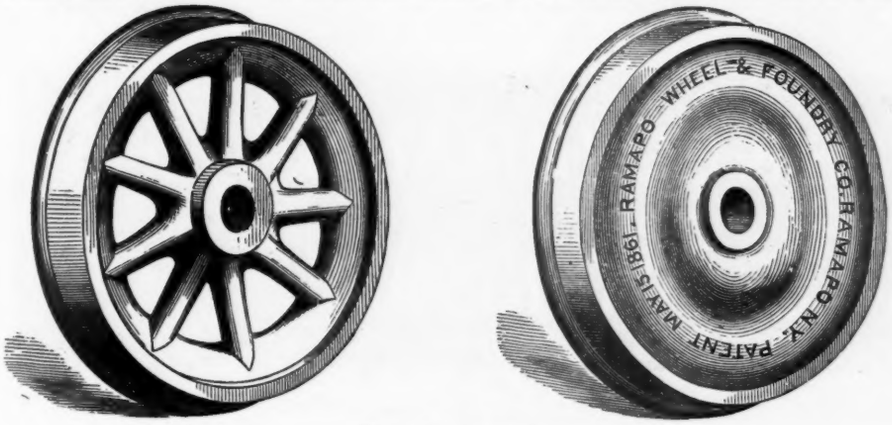

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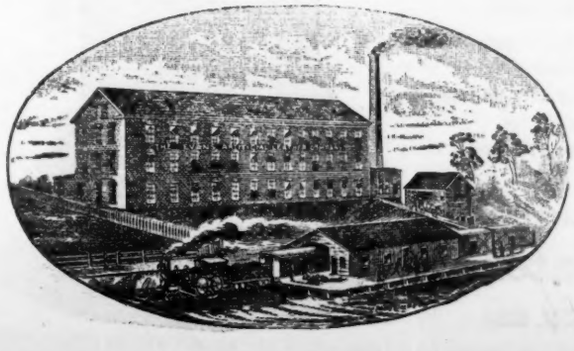

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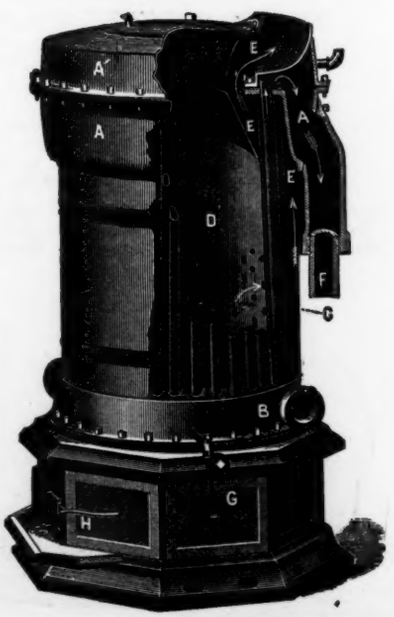

FINANCIAL DEPARTMENT.

FINANCIAL REVIEW.

WEDNESDAY EVENING, MARCH 28, 1883.

THE rates for money on call this forenoon on stocks were 7 to 8 per cent; after 12.30 the rates remained the same, but in the last hour of business call loans were made at 5 per cent.

The posted rates for foreign exchange were 4.81½ for sixty days and 4.84 for demand. The actual rates were 4.80½@¾ for sixty days, 4.83¼ @½ for demand, and 4.83¾@4.84 for cables; commercial bills were in moderate supply at 4.79@4.79½. Continental bills were as follows, viz.: Francs, 5.24⅜@5.23¾ and 5.21⅞@5.21½; Reichsmarks, 94@94⅛ and 94⅜@¾; Guilders. 39 3-16 and 40 1-16.

Applications were invited on the 15th inst. by Messrs. Morton, Rose & Co., of London, England, for an issue of £600,000 in £20 shares, bearing interest at 7 per cent per annum, for the construction of the Southern Brazilian Rio Grande do Sul Railway—the Brazilian Government guaranteeing £106,481 per annum for thirty years. The proposed line will run from the city of Rio Grande do Sul to Bage, the length being 175 miles. The subscription list was open only one day, thus indicating the favor with which the undertaking was regarded by the public.

The gross receipts of the Philadelphia and Reading Railroad Company for February were $1,453,862.34, of which $1,405,267.39 was derived from railroad traffic, $2,821.03 from canal traffic, $43,041 from steam colliers, and $2,732.92 from Richmond coal barges The expenses were $827,766.99, leaving net earnings of $626,095.35, an increase of $210,003.34 as compared with the corresponding month last year. The receipts of the Coal and Iron Company were $923,318.58, the expenses $919,333.07, and the net $3,985.51. The net earnings of both companies for the month were $630,080.86, an increase of $191,424.73 as compared with the corresponding month last year. The net earnings for the fiscal year ending February 28 were $2,138,741.93, an increase of $115,629.63 as compared with the corresponding period last year.

The forty-seventh report of George M. Dallis, the master under the receivership of the Philadelphia and Reading Railroad and Coal and Iron Companies, shows that the balance on hand February 1, 1883, was $7,189.35; the receipts during the month were $2,569,045.89, and the balance transferred to the managers of the Philadelphia and Reading Railroad Company at the close of the month, when the receivership was practically terminated, was $118,417.25. The balance on hand on account of the deferred income bonds, which was also handed over to the managers, was $12,034.69. The receipts of the Coal and Iron Company during February, including a balance of $19,047.32 carried over, were $1,007,224.26, and the balance transferred by the receivers to the managers at the end of the month was $52,606.62. The master states that "this report will be followed immediately by the forty-eighth report of the master—as to the completion of the surrender and transfer of possession—and reference is made to that (the forty-eighth) report for a statement of the purpose of the master as to finally vouching the items still remaining unvouched, in all amounting to $17,534.69."

The statement of the business of all lines of the Pennsylvania Railroad Company east of Pittsburgh and Erie for February, as compared with the same month in 1882, shows an increase in gross earnings of $405,465, an increase in expenses of $148,392, and an increase in net earnings of $257,073. The two months of 1883, as compared with the same period of 1882, show an increase in gross earnings of $961,501, an increase in expenses of $307,636, and an increase in net earnings of $653.865. All lines west of Pittsburgh and Erie, for the two months of 1883, show a surplus over all liabilities of $10,205, being a gain as compared with the same period of 1882 of $67,654.

The Italian Government has decided to resume specie payments on the 12th of April, and to provide for this event has secured $83.495,000 in gold from the following sources: Italy, $16,025,000; United States, $14,600,000; Germany, $13.450,050; France, $12,900,000; England, $10,300,000; Austria, $7,500,000; Russia, $5,045,000; Australia, $2,000,000; Denmark, $1,100,000; Belgium, $450,000; Spain, $125,000. On the date of resumption all two franc notes and under will be paid in silver, and cancelled as they are received. The five franc notes will also be retired. In the event of gold leaving the country, a safeguard will be established by the law demanding the payment of all customs duties in gold. Italy suspended payment in 1866. The circulation of government and bank legal tender notes amounts to about 1,625,000,000 francs, or $325,000,000.

The forty-eighth report of George M. Dallis, special master under the Receivership of the Philadelphia and Reading Railroad Company has been filed in the United States Circuit Court, Philadelphia. It relates to the completion of surrender and transfer of possession by the receivers of the property in their custody, in pursuance of the decree of the 14th of February. He gives $118,417.25 as the cash balance of the railroad company and $52,606.62 as that of the Coal and Iron Company handed over by the receivers to the managers on the 28th of February. There are still items unvouched amounting to $17,534.69, "the absence of which," says the report, "is not in any manner chargeable to any default or neglect on the part of the receivers or their employés, but is due solely to the necessary delay incident to the transaction of such a business." In the testimony relating to the transfer of the property appended to the report, John E. Wootten, the general manager, states that the property is in a very much better condition than at the beginning of the receivership; that the value of the rolling-stock is about 6 per cent greater, and the total increase in the value of the equipment is about $800,000.

The act making a new settlement of the Tennessee State debt, having passed both branches of the Legislature and received the signature of the Governor, is now a law. The following is a recapitulation of its main features which, now that it has assumed its final shape, will be of interest. The "State debt proper" bonds, aggregating about $2,118,000, are to be funded, with interest accrued (less four years) to July 1, 1883, in new bonds bearing the same ratio of interest borne by the original bonds, that is to say, 6, 5½ and 5 per cent interest, respectively. All other bonds, embracing $8,583,000 anti-war railroad bonds, $2,638,000 post-war railroad bonds, $2,246,000 funded in 1866, $569,000 funded in 1868, and $4,867,000 funded in 1873, are to be funded in new bonds, representing 50 per cent of the face of each bond, together with 50 per cent of the interest accrued up to July 1, 1883. As for the bonds funded in 1882, their treatment is different. To the sum of the face of each bond will be added the coupons, now matured, thereto attached, including the coupons maturing July 1, 1883, and five-sixths of such total amount is to be funded into coupon bonds bearing 3 per cent interest, exception of course being made of such bonds as can be traced to the "State debt proper."

At a meeting of the directors of the Lake Shore and Michigan Southern Railway Company held in this city on the 27th inst., the regular quarterly dividend of 2 per cent was declared, payable May 1. The transfer-books will be closed from March 30 to May 4.

The directors of the Michigan Central Railroad Company, at their meeting on the 27th inst., passed the following explanatory preamble and resolution:

Whereas, The agreement between the Michigan Central Railroad Company and the Canada Southern Railroad Company, under date of December 12, 1882, provides for semi-annual accounts of the business of the two companies, and although the earnings of the two companies for the quarter ending March 31, 1883, are sufficient to pay a dividend on their respective capital stocks, it is considered most advantageous to the interest of both companies that the dividends should hereafter be paid semi-annually; therefore,

Resolved, That hereafter the dividends of this company be payable on or about Aug. 1 and Feb. 1 in each year.

The Acting Secretary of the Treasury at Washington gave notice on the 27th inst. that on Wednesday, April 4, 1883, and on each of the following Wednesdays, United States bonds embraced in the 120th call will be redeemed at the Treasury Department in Washington to the amount of $5,000,000, with interest to the date of payment. Bonds presented at the department at 10 o'clock, A. M. on the day before each day named for redemption will be paid in the order of their presentation, and if an excess of $5,000,000 be presented on either day such excess will be first paid on the next redemption day. Parties transmitting bonds for redemption should address them to the "Secretary of the Loan Division, Washington, D. C.," and the bonds should be assigned to the "Secretary of the Treasury for redemption." Where checks in payment are desired in favor of any one but the payee the bonds should be assigned to the "Secretary of the Treasury for redemption for account of ——." (Here insert the name of the person or persons to whose order the check should be made payable.)

The Little Schuylkill Railroad Company, has paid off all its mortgage indebtedness.

The Stock Exchanges and Money Market.

New York Stock Exchange.

Closing Prices for the week ending Mar. 27.

	W.21.	Th.22	F.23	Sat. 24.	M 26.	Tu.27
Adams Express	.....	.....	.....	128½	128	.....
Albany and Susq.	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	.....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	107	.....
American Express	90	91	.....	89	91	89
Burl., C. R. & Nor.	.....	.....	.....	81	.....	.....
1st mortgage 5s	100¾	100⅞	.....	.....	.....	.....
Canada Southern	66¼	67	.....	66¾	67	66
1st mortgage guar	95½	96	.....	95½	95¼	....
Canadian Pacific	.....	.....	.....	.....	.....	59½
Central of N. Jersey	71¾	71¾	.....	72	71¾	71½
1st mort. 1890	.....	.....	.....	.....	.....	.....
7s, consol. ass	.....	.....	.....	.....	.....	111¾
7s, convertible ass.	.....	111½	.....	113	.....	.....
7s, Income	.....	.....	.....	.....	.....	.....
Adjustment	.....	105¼	.....	106½	.....	.....
Central Pacific	80¾	79⅝	.....	78	76¾	75⅛
6s, gold	.....	.....	.....	114¼	.....	.....
1st M. (San Joaq)	.....	.....	.....	.....	.....	.....
1st M. (Cal. & Or.)	.....	.....	.....	.....	.....	.....
Land grant 6s	.....	.....	.....	.....	.....	.....
Chesapeake & Ohio	.....	.....	.....	.....	.....	.....
1st pref	32	32¼	.....	32⅛	.....	.....
2d pref	.....	.....	.....	.....	.....	.....
1st mort., series B	91½	91⅞	.....	.....	91⅝	91⅜
Chicago and Alton	.....	.....	.....	.....	.....	.....
Preferred	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	.....	.....	.....	.....
Sinking Fund	.....	.....	.....	.....	.....	.....
Chi., Bur. & Quincy	121	121¾	.....	122½	122¼	121½
7s, Consol. 1903	.....	126½	.....	.....	.....	127
Chi., Mil. & St. Paul	101⅝	101¾	.....	102¼	93⅞x	98⅛
Preferred	119	119¾	.....	120	119¾	.....
1st mortgage, 8s	.....	.....	.....	.....	.....	132
2d mort., 7 3-10s	.....	.....	.....	.....	.....	.....
7s, gold	.....	.....	.....	.....	.....	.....
1st M. (La. C. div)	.....	.....	.....	.....	.....	.....
1st M. I. & M. div.)	.....	.....	.....	.....	.....	119
1st M. (I. & D. ext.)	.....	.....	.....	.....	.....	.....
1st M. (H.&D. div.)	.....	.....	.....	.....	.....	.....
1st M.(C. & M.div.)	.....	.....	.....	.....	.....	.....
Consolidated S. F.	.....	122	.....	.....	.....	.....
Chi. & Northwestern	132⅛	132¾	.....	132⅛	132⅝	132⅛
Preferred	145	146	.....	.....	146½	146¾
1st mortgage	.....	.....	.....	.....	.....	.....
Sinking Fund 6s	112⅛	.....	.....	.....	.....	.....
Consolidated 7s	131½	.....	.....	.....	131	.....
Consol. Gold bo'ds	.....	.....	.....	124⅛	124⅛	124⅝
Do. reg	.....	.....	.....	.....	.....	.....
Chi., R. Isl. & Pac.	123¼	122¾	.....	123⅜	123¾	123⅜
6s, 1917, c	124	123¾	.....	.....	124¼	.....
Chi., St. P. Minn. & O.	48¼	48⅞	.....	48	47⅝	47⅛
Preferred	107⅛	103⅛	.....	.....	107	107
Clev., Col., Cin. & Ind.	.....	74¼	.....	72½	.....	...
Clev. & Pittsburg gr.	.....	139⅛	....	.....	139	139¼
7s, Consolidated	.....	.....	.....	.....	.....	.....
4th mortgage	.....	.....	.....	.....	.....	.....
Col., Chi., & Ind. Cent	.....	.....	.....	.....	.....	.....
Del. & Hud Canal.	107¾	108¼	.....	108	108⅛	107⅞
Reg. 7s, 1891	113⅜	113½	.....	.....	.....	113⅜
Reg. 7s, 1884	.....	.....	.....	.....	.....	.....
7s, 1894	.....	.....	.....	.....	.....	.....
Del., Lack. & Western	123¾	124½	.....	124¼	124½	124
2d mortgage 7s	.....	.....	.....	.....	.....	.....
Consol. 1907	.....	.....	.....	.....	.....	.....
Erie Railway	....	.....	.....	.....	.....	.....
1st mortgage	....	.....	.....	.....	.....	.....
2d mort. 5s, ext.	.....	....	.....	106¾	.....	.....
3d mortgage	.....	.....	.....	.....	.....	.....
4th mort. 5s, ext.	.....	.....	.....	.....	.....	.....
5th mortgage	.....	.....	.....	.....	.....	.....
7s, Consol. gold	125½	.....	.....	.....	.....	.....
Great West. 1st mort	....	....	.....	.....	104½	.....
2d mortgage	100	.....	.....	100½	.....	.....
Hannibal & St. Jo.	...	....	.....	.....	.....	.....
Preferred	81	78½	....	...	.....	.....
8s. Convertible	104	.....	.....	...	104½	104⅛
Houston & Tex. Cen	.....	.....	.....	.....	.....	.....
1st mortgage	109½	....	.....	109	.....	109
2d mortgage	.....	.....	.....	.....	.....	.....
Illinois Central	.....	144¾	.....	.....	144⅜	144⅛
LakeShore & MichSo	109¾	110⅛	.....	110⅛	110½	110
Consol. 7s	.....	.....	.....	.....	.....	.....
Consol. 7s, reg	....	.....	.....	.....	.....	.....
2d Consolidated	.....	120	.....	.....	120	.....
Leh. & W. B. con. ass	.....	102½	.....	...	102	.....
Long Dock bonds	.....	.....	.....	.....	.....	.....
Louisville & Nash.	54⅛	54⅜	.....	54⅜	54	53½
7s, Consol. reg	....	.....	.....	....	117¼	....
Manhattan	42	40	.....	43½	42⅜	.....
1st pref	.....	85	.....	.....	.....	.....
Met. Elevated	.....	.....	.....	.....	.....	80
1st mortgage	96¾	96⅛	.....	96¾	96½	96¾
Michigan Central	94¾	94⅛	.....	93¼	93¼	92⅛
8s, 1002	....	.....	.....	.....	.....	.....
Minn. & St. Louis	.....	.....	.....	.....	27	26
Preferred	....	.....	.....	.....	57½	.....
Morris & Essex	.....	124	.....	136½	.....	122½
1st mortgage	137⅛	.....	.....	.....	....	135
2d mortgage	112¾	.....	.....	.....	....	.....
7s of 1871	.....	.....	.....	.....	.....	.....
7s, Convertible	...	.....	....	.....	.....	.....
7s, Consolidated	.....	12.¾	.....	.....	.....	.....
N. J. Cen. & Hud. R.	125⅛	125⅛	.....	125¾	125⅜	125¾
6s, S. F. 1883	104¾	105	...	104⅞	.....	104¾
6s, S. F., 1887	.....	.....	.....	.....	.....	.....
1st mortgage	130½	130	.....	.....	.....	.....
1st mortgage, reg.	.....	.....	.....	.....	.....	.....
N. Y. Elevated	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	.....	.....	116	116
N. Y. & Harlem	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	.....	.....	...	.....
1st mortgage, reg	..	.....	.....	.....	.....	.....
N. Y. Lake Erie & W	37¼	37½	.....	37⅛	37¼	37
Preferred	.....	.....	.....	.....	.....	.....
2d Consolidated	96	96	..	96¼	96⅛	96⅛
New 2d 5s fund	.....	.....	.....	.....	.....	.....
N. Y., N. Hav'n & Hart	.....	.....	.....	.....	.....	.....
North Mo. 1st mort	.....	....	.....	.....	.....	.....
Northern Pacific	50¾	50⅜	...	50⅛	50¼	50⅜
Preferred	86¾	86¾	.....	86⅞	86⅛	86
Ohio & Mississippi	.....	.....	.....	.....	.....	.....
2d mortgage	....	.....	.....	.....	123	.....
Consolidated 7s	....	.....	.....	.....	.....	.....
Consol. S. Fund	.....	.....	.....	.....	.....	.....
Pacific Mail S. S. Co	40⅛	.....	.....	40⅛	.....	40⅛
Pacific R. R. of Mo.	.....	40⅞	.....	.....	.....	.....
1st mortgage	.....	.....	.....	.....	.....	105¾
2d mortgage	.....	.....	.....	.....	.....	.....
Panama	.....	.....	.....	.....	.....	.....
Phila. & Reading	52½	53¼	.....	53	52⅞	52¾
Pitts, Ft. W. & Chi. gtd	.....	.....	.....	.....	.....	.....
1st mortgage	137¼	.....	.....	.....	136¼	.....
2d mortgage	..	.....	.....	.....	133	.....
3d mortgage	.....	.....	.....	.....	.....	.....
Pullman Palace Car	122½	.....	.....	120¼	122	120
Quicksil'r Min'g Co	.....	.....	.....	.....	.....	.....
Preferred	.....	.....	.....	.....	42	.....
St. Louis & San Fran	.....	.....	.....	.....	.....	.....
Preferred	....	.....	.....	.....	.....	.....
1st Preferred	....	.....	.....	.....	.....	.....
St. L., Alt'n & T. H.	68¼	69	.....	.....	70¼	69
Preferred	....	99	.....	.....	....	.....
1st mortgage	....	.....	.....	.....	.....	...
2d mort. pref	....	.....	.....	.....	....	.....
Income bonds	.....	106	.....	.....	.....	.....
St. L., Iron Mt. & S.	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	.....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	....	.....
Toledo and Wabash.	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	.....	.....	.....	.....
2d mortgage	....	..	.....	.....	.....	...
7s, Consolidated	.....	92	.....	.....	.....	.....
St. Louis Division	.....	....	....	.....	.....	.....
Union Pacific	96	96⅜	....	96½	96⅛	95⅛
1st mortgage	114⅜	114⅜	.....	114½	114⅛	.....
Land Grant 7s	...	.....	.....	.....	.....	.....
Sinking Fund 8s	.....	.....	.....	116	.....	.....
United States Ex	.....	60	.....	.....	.....	.....
Wabash, St. L. & Pac	28⅞	29⅛	.....	29⅛	29⅛	28¾
Preferred	48¾	49⅛	.....	49⅛	49⅛	48⅛
New mort. 7s	.....	.....	.....	.....	.....	.....
Wells-Fargo Ex	.....	125½	.....	.....	.....	.....
Western Pacific b'ds	..	.....	....	110⅛	.....	109¾
Western Union Tel.	82¼	82⅝	.....	82⅜	82	82
7s, S.F conv., 1900	.....	.....	.....	.....	.....	.....
FEDERAL STOCKS:—						
U. S. 4s, 1907, reg	119	.....	.....	.....	119	.....
U. S. 4s, 1907, coup	.....	120⅛	.....	.....	120⅜	.....
U. S. 4½s, 1891, reg	112⅞	.....	.....	.....	113	.....
U. S. 4½s, 1891, coup	120	.....	.....	.....	.....	112⅞
U. S. 5s, cont'd at 3⅞	.....	.....	.....	.....	...	.....
U. S. 3s, reg	103⅞	.....	.....	.....	103⅞	103¾
Dt. of Col. 3-65s, reg	.....	.....	.....	.....	.....	.....
Dt. of Col. 3-65s, coup	.....	.....	.....	.....	.....	.....

Boston Stock Exchange.

Closing Prices for the Week Ending Mar. 27.

	W.21.	Th.22.	F 2..	Sat 24.	M 26.	Tu.27.
Vtch., Top. & San. Fe.	81¼	81⅛	.....	82	82	81½
1st mortgage	119	119	.....	119½	.....	..
Land Grant 7s	.....	.....	.....	.....	.....	111¼
Boston & Albany	....	174¾	.....	.....	.....	174½
Boston and Lowell	.....	95	.....	.....	.....	.....
Boston & Maine	....	.....	.....	160	160	160
Boston & Providence	.....	...	.....	.....	164	.....
Bos'n, Hart. & Erie 7s	.....	.....	.....	.....	.....	.....
Burl. & Mo. R. L. G. 7s	.....	.....	....	.....	.....	.....
Burl. & Mo. R. in Neb	.....	....	.....	.....	.....	.....
6s, exempt	.....	.....	.....	.....	.....	.....
4s	.....	.....	.....	.....	.....	....
Chi., Burl. & Quincy	121¼	121⅜	.....	122	122¼	122
Cin., Sand. & Clev ($50)	. ...	....	.....	.....	.. ..	.....
Concord ($50)	.....	.....	.....	101¼	101⅛	.....
Connecticut River	.....	.....	.....	.....	.....	.....
Eastern	48	47¾	....	47½	46⅜	46⅛
New 6s, Bond	112¼	.....	.....	112⅞	.....	.....
Fitchburg	....	120	.....	.....	120	120
N. Y. & New England	45¼	46¼	.....	.....	.....	45¾
7s	.....	114½	...	.....	.....	114¾
Northern N. H.	.....	.....	.....	110¼	.....	.....
Norwich & Worcester	.....	.....	.....	.....	.....	.....
Ogden & Lake Cham	.....	.....	.....	.....	.....	.....
Old Colony	.....	133¼	.....	133	.....	132¾
Ph., Wil. & Balt. ($50)	.....	.....	.....	.....	.....	.....
Portl'd, Saco & Ports	.....	.....	...	.....	.....	.....
Pueblo & Ark Val 7s	..	.....	.....	.....	.....	.....
Pullman Palace Car	121	.....	.....	.....	122	122
Union Pacific	96	96¾	.....	96¾	96¼	95¼
6s	.....	...	...	112⅝	.....	.....
Land Grant 7s	.....	.....	.....	.....	.....	.....
Sinking Fund 8s	115¼	115¼	.....	.....	115¼	.....
Vermont & Mass	...	.....	.....	.....	....	....
Worcester & Nashua	....	.....	.....	.....	.....	.....
Cambridge (Horse)	.....	.....	.....	.....	.....	.....
Metropolitan (Horse)	.....	70	....	.....	.....	.....
Middlesex (Horse)	.....	.....	.....	.....	.....	.....
Cal. & Hecla Min'g Co	240	240	.....	242	242	.....
Quincy	.....	.....	.....	49	49¼	49⅜

Philadelphia Stock Exchange.

Closing Prices for the Week Ending Mar. 27.

	W.21.	Th.22	F.23.	Sat. 24.	M.26.	Tu 27.
Allegh'y Val. 7 3-10s	.....	.....	.....	.....	.....	.....
7s, Income	.....	48	.....	.....	.....	.....
Buff., N. Y. & Phila.	15¾	.....	.....	16	15¾	15¾
Camd'n & Am. 6s, '83	.....	.....	.....	.....	.....	.....
6s, 1889	.....	.....	.....	.....	.....	.....
Mort. 6s, 1889	.....	.....	.....	112	111⅞	.....
Camden & Atlantic	.....	.....	.....	.....	.....	.....
Preferred	.....	.....	.....	.....	.....	.....
1st mortgage	.....	.....	.....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	.....	.....
Catawissa	.....	.....	.....	.....	.....	.....
Preferred	.....	.....	.....	.....	.....	.....
2d pref	.....	.....	.....	56	59	.....
7s, new	.....	.....	.....	121	.....	.....
Del. & Bound Brook	.....	.....	.....	.....	.....	.....
7s	.....	.....	.....	.....	.....	.....
Elmira & Williamsp't	.....	.....	.....	.....	.....	.....
Preferred	.....	.....	.....	.....	.....	.....
Hunt. & B. Top Mt.	.....	.....	.....	.....	.....	.....
Preferred	.....	.....	.....	.....	.....	.....
2d mortgage	.....	.....	.....	.....	.....	.....
Lehigh Navigation	41¾	.....	.....	41½	.....	41¾
6s, 1884	.....	.....	.....	.....	101⅛	.....
Gold Loan	112	112¾	.....	.....	.....	.....
Railroad Loan	.....	116	.....	.....	.....	.....
Conv. Gold Loan	.....	.....	.....	.....	.....	.....
Consol. Mort, 7s	118	.....	.....	.....	.....	.....
Lehigh Valley	64¾	64¾	.....	64½	65	64¾
1st mort. 6s, coup	.....	.....	.....	123	.....	120⅜
1st mort. 6s, reg	.....	.....	.....	.....	.....	.....
2d mort. 7s	.....	.....	.....	.....	133	.....
Consol mort. 6s	.....	.....	.....	.....	.....	121
Consol. mtg. 6s, reg	.....	.....	.....	.....	.....	.....
Little Schuylkill	60	.....	.....	.....	60	.....
Minehill & Sch. Hav'n	.....	.....	.....	64	64	64
North Pennsylvania	68¾	68¾	.....	.....	.....	68¾
1st mortgage 6s	.....	103½	....	....	103¾	.....
2d mortgage 7s	.....	.....	.....	.....	.....	120½
Genl. mtg. 7s, coup	.....	.....	.....	.....	.....	123
Genl. mtg. 7s, reg	.....	.....	.....	.....	.....	.....
Northern Central	.....	.....	.....	.....	55⅝	.....
5s	100⅜	.....	.....	101	100⅜	.....
Northern Pacific	50⅜	50⅜	.....	51⅜	50½	50⅜
Preferred	86⅞	86⅞	.....	86⅝	86½	86⅛
Pennsylvania R. R.	61⅞	61¼	.....	62⅛	62	61⅞
1st mortgage	.....	.....	.....	.....	.....	.....
Gen'l mort	.....	.....	.....	.....	.....	123
Gen'l mort reg	.....	.....	.....	.....	.....	.....
Consol. mort. 6s	.....	.....	.....	.....	.....	.....
Consol. mort. reg	.....	.....	.....	.....	.....	.....
Pa. State 5s, new	.....	.....	.....	.....	117	.....
do 4s, new	.....	.....	.....	.....	116¼	116¼ 116¾
do 3½s, 1912	.....	.....	.....	.....	.....	.....
Phila. & Reading	26¾	26¾	.....	26¾	26½	26¾
1st mortgage 6s	.....	.....	.....	.....	.....	.....
7s of 1893	....	.....	.....	.....	.....	.....
7s, new convert	70	.....	.....	73	.....	...
Consol. mort. 7s	.....	.....	.....	125¾	126	.....
Consol. mort. reg	.....	.....	.....	126	.....	126
Gen'l mort. 6s	95⅞	95¾	.....	.....	95¾	95⅝
Def. Income bonds	.....	.....	.....	.....	.....	.....
Philadelphia & Erie	20	.....	.....	.....	.....	.....
1st mortgage 5s	.....	.....	.....	.....	105	105¼
2d mortgage 7s	.....	.....	.....	.....	.....	.....
Pittsb., Cin. & St. L. 7s	.....	.....	....	120½	.....	.....
Pitts. Tit. & Buff. 7s	96¼	.....	.....	.....	.....	97
Schuylkill Navi't'n.	.....	.....	.....	.....	.....	...
Preferred	.....	... ..	.....	.....	14¾	.....
6s, 1897	....	.....	.....	.....	100½	.....
6s, 1907	.....	.....	.....	.....	90	.....
United Co. of N. J.	191¾	189x	.....	189	.....	.....
Hestonville, (Horse)	.....	....	.....	.....	.....	...
Chestnut & Walnut	.....	.....	.....	.....	.....	.....

Baltimore Stock Exchange.

Closing Prices for the Week Ending Mar. 26.

	Tu.20.	W.21.	Th.22.	F.23.	Sat. 24.	M. 26.
Baltimore & Ohio...	199	198	.....	.....	198	.....
6s, 1885.....	.....	.....	.....	.....	.....	.....
Central Ohio ($50)...	.....	.....	.....	.....	.....	.....
1st mortgage.....	.....	.....	.....	.....	.....	108½
Marietta & Cincin'ti.	.....	.....	.....	.....	.....	.....
1st mortgage, 7s..	.....	.....	.....	.....	.....	.....
2d mortgage, 7s...	.....	.....	104¾	.....	104¾	.....
3d mortgage, 8s...	.....	53½	.....	.....	.....	53½
Northern Cen. ($50).	.....	.....	.....	.....	56	55¾
2d mort. 6s, 1885..	104½	.....	.....	.....	.....	.....
3d mort. 6s, 1900..	.....	.....	.....	.....	.....	.....
6s, 1900, gold.....	.....	115¾	.....	.....	.....	.....
6s, 1904, gold.....	.....	.....	.....	.....	.....	.....
5s, series A.	.....	.....	.....	.....	.....	.....
5s, series B.	.....	.....	.....	.....	.....	.....
Pitts. & Connelsv. 7s.	.....	.....	121¾	.....	121¾	.....
Virginia 6s Consol..	42	42	.....	.....	41½	.....
Consol. coupons...	.....	.....	44¼	.....	.....	45
10-40 bonds.....	35	.....	34¾	.....	34	.....
Def'd Certificates.	.....	.....	.....	.....	.....	.....
New 3s.....	50¾	50¾	.....	.....	50¾	50¾
City Passenger R. R.	.....	50	.....	....	.....	.....

London Stock Exchange.

	Closing Prices March 9.		Mar. 2.	
Baltimore and Ohio 5s, 1927.....	108	110	108	110
Central of N. J., $100 shares.....	70	75	70	75
Do. consol. mort.....	113	115	113	115
Do. Income Bonds.....	88	92	88	92
Central Pacific of Cal., $100 shs..	83½	84¼	83¼	84½
Do. 1st mort. 6s, 1895-'98.....	116	118	116	118
Det., G'd Haven & Mil. Equip bds.	118	120	118	120
Do. Con. M. 5p.c., till '83 after 6p.c.	117	119	117	119
Illinois Central $100 shares.....	148	149	148¾	149½
Do. S. F. 5s, 1903.....	106	108	106	108
Lehigh Valley Cons. mort. 1923...	115	120	115	120
Louisville and Nashville mort. 6s	96	98	95	97
Do. capital stock $100 shares...	56½	57½	55	56¼
N. Y. Cen. & Hud. R. mort. bonds.	130	135	130	135
Do. $100 shares.....	131½	132½	130½	131½
Do. mort. bonds (stg.).....	121	123	121	123
N. Y. Lake Erie & West. $100 shs.	38¼	39	38¼	38¾
Do. 6 p. c, pref. $100 shares....	81	83	82	84
Do. 1st Con. Mort. bonds (Erie).	128	132	128	132
Do. do. Funded Coupon bonds.	125	130	125	130
Do. 2d Consol. Mort. bonds....	99	101	99	101
Do. do. Funded Coupon bonds.	98	100	98	100
N. Y., Pa. & Ohio 1st mort. bonds.	54	55	55	56
Do. Prior Lien bonds (sterling).	102	105	102	105
Pennsylvania $50 shares.....	63¾	64¼	63¼	63
General Mortgage.....	122	124	122	124
Phil. & Erie Gen. mort. 6s, 1920...	115	117	115	117¾
Philadelphia & Reading $50 shs..	27½	28	27¼	27
General Consol Mortgage. 117	119	117	119	
Do. Improvement Mortgage....	107	109	106	108¾
Do. Gen. Mtg. '74, ex-def'd coup.	97	99	97	99
St. L. Bridge 1st mort. gold bond.	124	126	124	126
Do. 1st. pref. stock.....	94	98	94	98
S. P'fic of Cal., 1st mort 6s, 1905-6.	108½	109	108	109
Union Pacific 1st mtg. 6s, 1896-9..	116	118	116	118
Wabash, St. L. & P. $100 shares..	29½	30½	29½	30
Do. $100 pref shares...	49½	50½	49	50
Do. gen. mort. bonds.....	81	83	80	82½

QUOTATIONS.

THE following quotations of sales of railway and other securities, for the week, are in addition to those given elsewhere in our columns.

New York.—Atlantic and Pacific Western div. 1st, 96¾; do. inc., 21½; Buffalo and Erie 7s, new, 119; Buffalo, New York and Philadelphia 1st, 97; Columbia and Greenville pref., 46; Cedar Falls and Minn., 13; Chicago, St. Paul, Minneapolis and Omaha consol., 107; Chespeake and Ohio 6s, 1911, 102; do. cur. 6s, 53; do. 1st, series A, 108¼; Chicago, Milwaukee and St. Paul 2d mort., 105; do. S. W. div. 1st, 108; do. Southern Minn. div. 1st, 105½; do. Chicago and Pacific Western div. 1st, 93; Chicago and Northwestern S. F. 5s, 101¾; Chicago, St. Louis and New Orleans 5s, 103¾; Columbus, Chicago and Indiana Central inc., 73; do. reorganization cer., 74½; Cairo and Fulton 1st, 108; Central Iowa 1st 108; Columbus, Hocking Valley and Toledo, 1st, 80; Denver and Rio Grande, 46½; do. 1st, 112; do. consol., 91¾; Dubuque and Sioux City, 87; East Tennessee, Virginia and Georgia, 9; do. pref., 16½; do. inc., 33⅜; Evansville and Terre Haute, 68; Elizabethtown, Lexington and Big Sandy 6s, 94½; Fort Worth and Denver, 1st, 70¾; Green Bay, Winona and St. Paul, 9; Gulf, Colorado and Santa Fe 1st, 112½; Hannibal and St. Joseph consol. 6s, 105; Houston and Texas Central, Waco and N. W. div., 112½; Houston, East and West Texas 1st, 102; International and Gt. Northern coup. 6s, 83; do. 1st, 108; Indiana, Bloomington and Western, 32¾; do. 1st, 88; Illinois Central Leased Line, 80; Indianapolis, Decatur and Springfield 1st, 101½; Iowa Midland 8s, 133; Kansas Pacific 6s, 1896, 109; do. 1st consol., 99½; do. 6s, Denver div. ass. 108; Lehigh and Wilkesbarre inc., 81; Lake Erie and Western, 30½; do. inc., 45; do. 1st, 98; Long Island, 62¾; do. consol. 5s, 98¼; Louisville and Nashville Cecelian Branch 1st, 102½; do. Louisville div. 1st, 99; do. gen'l mort. 6s, 95; do. N. O. and Mobile div. 1st, 92; Lafayette, Bloomington and Munci 1st, 98½; Lake Shore div. bonds, 122; Louisville, New Albany and Chicago, 1st, 102; Manhattan Beach, 24¼; Michigan Southern, S. F., 107; Missouri, Kansas and Texas, 30¾; do. gen'l mort. 6s, 80; do. consol. 7s, 106; do. 2d, 58¼; Missouri Pacific, 101½; do. 1st consol., 102¾; do. 3d, 112; Mobile and Ohio, 17½; do. 1st deben., 80; Memphis and Charleston, 38; Milwaukee, Lake Shore and Western pref., 44; do. 1st, 98; Michigan Central 5s, 101; Minneapolis and St. Louis, Iowa Ext. 1st, 115; New York, Chicago and St. Louis, 11¾; do. pref., 27½; do. 1st, 96½; New York, Ontario and Western, 25½; New York, Lackawanna and Western, 87¾; do. 1st, 113½; Norfolk and Western pref., 41½; do. gen'l mort., 101½; New York, West Shore and Buffalo 1st, 76½; New Orleans Pacific 1st, 88; Northern Pacific 1st, 104¾; Nashville, Chattanooga and St. Louis 1st, 117; Ohio Central, 12; do. inc., 88½; do. 1st, 88⅜; Oregon Trans Continental, 84; do. 1st, 91; Oregon Short Line 6s, 95¾; Oregon Railway and Nav., 137; do. 1st, 107; Ohio Southern, 12½; do. 1st, 82½; Oregon Imp. Co., 84; do. 1st, 90; Peoria, Decatur and Evansville, 22½; Panama S. F. 6s, 103; Quincy and Toledo 1st, 101; Richmond and Danville, 52½; do. 6s, 94¾; do. deben., 65; Richmond, Danville and West Point, 22; Rochester and Pittsburgh, 19½; do. 1st, 105; do. inc., 43; Richmond and Alleghany, 11; do. 1st, 77⅜; Rome, Watertown and Ogdensburg 5s, 73; St. Paul, Minn. and Man., 157; do. 1st, 108½; do. Dakotah Ext. 1st, 108¾; St. Paul and Duluth, 37; do. pref., 94; St. Louis and San Francisco, Class A, 98½; do. B, 96¼; do. C, 96½; do. gen'l mort., 99; St. Louis, Alton and Terre Haute div. bonds, 72; Southern Pacific of California 1st, 105½; South Pacific of Mo. 1st, 104; South Carolina inc., 60; do. 1st, 102¾; St. Louis and Iron Mt. Arkansas Branch 1st, 109; do. 5s, 78½; Toledo, Delphos and Burlington inc., 11½; Texas and Pacific, 93¾; do. inc. L. G., 66½; do. Rio Grande div. 1st, 81¾; Toledo, Peoria and Western 1st, 109; Union Pacific col. trust, 6s, 103; Wabash, St. Louis and Pacific gen'l mort. 6s, 79; Arkansas 7s, L. R., P. B. & N. O., 49; do. L. R. & Ft. S., 51; do. M., O. & R. R. 5s; North Carolina consol. 4s, 80; Tennessee 6s, old, 40½; do. compromise, 44½; Virginia 6s, def., 11½; American Cable, 65; Mutual Union Telegraph, 17¾; do. 6s, 85; Consolidation Coal, 26; Colorado Coal and Iron, 32¼; do. 6s, 81; New Central Coal, 12½; Homestake Mining, 15½; Ontario, 24; Standard, 6½.

Boston.—Atlantic and Pacific inc., 20⅛; Burlington and Missouri River in Neb. 6s, non-exempt, 102¾; Boston, Revere Beach and Lynn, 115; Cheshire R. R. 6s, 109½; Chicago, Burlington and Quincy 4s, old, 86⅝; do. 4s, Denver Ext., 83½; do. 4s, S. W. div., 79¾; do. 7s, 124; Connecticut and Passumpsic Rivers, 85; Chicago, Milwaukee and St. Paul, Dubuque div. 6s, 102; Flint and Pere Marquette, 25½; do. pref., 98; Green Bay and Minn., 8; Iowa Falls and Sioux City, 85; do. 7s, 120; Kansas City, St. Joseph and Council Bluffs 7s, 109¼; Louisiana and Missouri River, 13½; do. pref., 23½; Little Rock and Fort Smith, 31; do. 7s, 91½; Massachusetts Central, 3½; Mexican Central, 20; do. 7s, 72¼; do. inc. 20⅞; Marquette, Houghton and Ontonagon, 56¾; New York and New England 6s, 105¾; New Mexico and Southern Pacific 7s, 112¼; Oregon Short Line 6s, 95¼; Rutland pref., 17; Sonora 7s, 102½; Toledo, Cincinnati and St. Louis, 4; Wisconsin Central, 23½; do. pref., 30; do. 7s, 1st series, 80; do. 2d series, 50; Allouez Mining Co., 2; Atlantic, 10; Franklin, 12; Osceola, 29; Pewabic, 6.

Philadelphia.—Buffalo, New York and Philadelphia pref., 30½; Cincinnati City 6s, gold, 122; Elmira and Williamsport 5s, 101½; Germantown Passenger, 65; Huntingdon and Broad Top Mt. consol. 5s, 89; do. 1st 7s, 118; Lombard and South Streets Passenger, 27; Morris Canal pref., 175; Nesquehoning Valley, 52½; Northern Central 5s, series B, 95½; Northern Pacific scrip, 84; Philadelphia and Reading gen'l mort. 7s, 101½; do. scrip, 112; do. adj. scrip, 83½; do. consol. 5s, 2d series, 63; People's Passenger, 10½; Pennsylvania Canal 6s, 85; Philadelphia City 6s, 1903, 133½; do. 4s, 1900, 112; do. 4s, 1912, 116¾; do. 4s, 1885, 103⅜; Philadelphia, Wilmington and Baltimore 4s, 93½; Union and Titusville 7s, 96; West Jersey and Atlantic, 38; Western Pennsylvania 6s, A. & O., 108½; West Philadelphia Passenger, 146.

Baltimore.—Atlanta and Charlotte 1st, 106½; do. inc., 77½; Baltimore City 6s, 1886, 107; do. 6s, 1890, 113; do. 6s, 1900, 126; do. 5s, 1916, 122½; do. 5s, 1834, 113½; do 4s, 1920, 110; Columbia and Greenville 1st, 101½; do. 2d, 83½; Canton Co. 6s, gold, 110; Consolidation Coal, 26; George's Creek Coal, 93; Maryland Defense 6s, 102½; North Carolina consol. 4s, 80; Ohio and Mississippi, Springfield div. 1st, 117½; Parkersburg Branch, 8½; Richmond and Alleghany, 12; Richmond and Danville, gold 6s, 94½; Union R. R. bonds endorsed, 117; Virginia and Tennessee 6s, 101½; Virginia Peelers, 35¾; do. coupons, 49½; do. 10-40 coupons, 45; do. old, 53; Virginia consol. coupons, old, 53; Virginia Midland 2d mort., 107; do. 3d mort., 92½; do. 5th mort., 95; do. inc., 58; Wilmington, Columbia and Augusta, 85.

COUPONS OF THE CENTRAL PACIFIC RAILROAD Company (San Joaquin Valley Branch) and of the LAND BONDS, due April 2, 1883, will be paid at the Banking House of FISK & HATCH, No. 5 Nassau street, New York.

E. H. MILLER, Jr., Secretary.

COUPONS OF THE FIRST MORTGAGE BONDS OF the SOUTHERN PACIFIC RAILROAD COMPANY (of California), due April 2, 1883, will be paid at the office of the Company, Nos. 35 Wall and 25 Broad streets, New York.

J. L. WILLCUTT, Secretary.

THE LAKE SHORE AND MICHIGAN SOUTHERN RAILWAY COMPANY.

TREASURER'S OFFICE,
GRAND CENTRAL DEPOT,
NEW YORK, March 27, 1883.

THE BOARD OF DIRECTORS of this company have this day declared a QUARTERLY dividend of TWO PER CENT upon its capital stock, payable on TUESDAY, THE FIRST DAY OF MAY NEXT, at this office.

For the purpose of this dividend, and also for the annual meeting of the stockholders for the election of directors, etc., which is to be held on the 2d day of May next, the transfer books will be closed at 3 o'clock P. M. on Friday, the 30th inst., and will be reopened on the morning of Friday, the 4th day of May next.

F. W. VANDERBILT,
Acting Treasurer.

COLLINS, BOUDEN & JENKINS,

—BANKERS—

25 PINE ST. — NEW YORK

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Devote special attention to the purchase and sale of Stocks and Bonds in the Boston market, the careful selection of securities for investment, and the negotiation of commercial paper

WM. A. PAINE. WALLACE G. WEBBER. C. H. PAINE.

BROWN BROTHERS & CO.,

No. 59 WALL STREET, NEW YORK,

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Issue Commercial and Travelers' Credits in Sterling,

AVAILABLE IN ANY PART OF THE WORLD, AND IN *FRANCS* IN MARTINIQUE AND GUADALOUPE.

Make TELEGRAPHIC TRANSFERS OF MONEY between this and other countries, through London and Paris.

Make Collections of Drafts drawn abroad on all points in the United States and Canada, and of drafts drawn in the United States on Foreign Countries.

COMMERCIAL DEPARTMENT.

COMMERCIAL ITEMS.

THE annual report of the Collector of the Port of Philadelphia shows that the total value of shipments during the year 1882, amounted to $34,529,459, against $41,162,957 in 1881. During 1882 goods to the value of $20,844,499 were shipped to England, $2,409,572 to Belgium, $1,437,413 to France, $1,620,934 to Germany, $1,169,053 to Ireland, $1,173,203 to Italy, $1,033,320 to Cuba, $669,839 to Brazil, $200,552 to East Indies, $283,671 to Gibraltar, $363,574 to West Indies, $737,773 to Japan, $284,285 to Austria, $686,141 to Portugal, $145,943 to Mexico, and $562,386 to the Netherlands. Commodities valued at $9,770,654 were exported in American vessels and $24,758,805 in foreign vessels. The value of the imports in 1882 amounted to $37,666,489, of which $15,414,524 were brought in American and $22,251,965 in foreign vessels Duties amounting to $12,994,813.70 were collected in 1882, which is an increase of $2,549,411.80 over the total collections in 1881.

THE reports of the Bureau of Statistics at Washington show a very marked decrease in the exports of butter and cheese. In the months of January and February, 1882, the amount of cheese exported was more than 11,000,000 pounds, but in the months of January and February, 1883, the amount was less than 5,000,000 pounds. Comparing the exports for the ten months ending February 28, 1883, with those of the corresponding ten months of the previous year, it appears that the amount of butter exported fell from nearly 16,000,000 pounds to about 7,500,000 pounds, and the amount of cheese from 128,000,000 pounds to 89,000,000 pounds. Our exports of fresh beef for the four months which ended February 28, were 50 per cent greater than in the corresponding four months of the previous year, but there has been a decrease of the exports of salted beef, bacon, lard, pork and tallow. Hams show an increase.

AN investigation of the consumption and distribution of corn and wheat to March 1, 1883, has been completed by the Department of Agriculture. It makes the stock of corn on hand at that date about 500,000,000 bushels, or 36 per cent of last year's crop. Of this 380,000,000 bushels are in the States of the central basin north of Tennessee, and 166,000,000 bushels in the Southern States. Most of the remainder is in the Middle States. The proportion of wheat on hand March 1, is 28 per cent of the crop, or about 140,000,000 bushels. The proportion of the last five years at that date is nearly the same. In States of the central basin the total reported on hand is 104,000,000 bushels. The proportion remaining in the Southern States is 25 per cent. instead of 22, the average in previous years. In the Pacific States the percentage is 23 instead of the former average, 26 per cent.

DURING the month of January the exports of New Orleans amounted to $12,637,215, and during February to $9,541,104, or 22,178,319 in two months—an increase of more than 60 per cent over 1882. This places New Orleans second to New York commercially. Indeed, the commerce of New Orleans, so far this year, is greater than that of any two other ports in the country, New York alone excepted. Of this cotton, as usual, constitutes about four-fifths of the total exports. Grain, however, shows a very flattering increase, the exports being 1,772,372 bushels, of the value of $1,629,300—more than ten times as great as the grain trade of the corresponding months of 1882.

THE commercial circular of Howard Smith & Co., of Chicago, Ill., shows that the number of hogs packed in that market during the year ending March 1, 1883, was 4,223,000, a decrease of 878,000 compared with the preceding year. The falling off is attributed to the decreased supply of hogs in the country, and to the fact that higher prices and the restriction on exportation are making packers cautious. The average weight of hogs packed was 218 pounds, against 231 in 1881 and 234 in 1880. The number of cattle slaughtered during the past year was 774,578.

THE total values of the exports of domestic provisions during the month of February, 1883. were $9,457,734; February, 1882, $9,246,582. Two months ended February 28, 1883, $20,106,218; two months ended February 28, 1882, $22,446,961. Provisions and tallow, four months ended February 28, 1883, $36,959,769; provisions and tallow, four months ended February 28, 1882, $40,623,311. Dairy products, ten months ended February 28, 1883, $11,327,139; dairy products, ten months ending February 28, 1882, $16,942,928.

THE superintendent of the Cincinnati Merchants' Exchange, has made a statement of the pork packing statistics, showing the total number of hogs packed in that city from November 1 to March 1, to be 425,400; an increase over the previous year of 40,522. The yield of lard was 15,770,206 pounds, an increase of 1,000,600 pounds over the previous year. The aggregate cost of the hogs was $1,214,254. The number of barrels of pork produced was 16,217.

THE total value of the exports of domestic breadstuffs in February, 1883, was $15,773,009, and in February, 1882, $11,175,193; for the two months ending February 28, 1883, $31,608,586, against $23,152,717 for the two months ending February 28, 882; and for the eight months ended February 28, 1883, $149,431,142, against $135,296,632 for a like period of the previous year.

New York Markets.

Quotations of Wednesday, March 28.

FLOUR—Dull; No. 2, $2.40@$3.50; superfine, $3.50@$3.80; shipping extras, $3.75@$4.20. Corn meal was dull and unchanged.

COTTON—Spots 1-16c. lower; sales 793 bales; middling uplands, 10 1-16c.; do. Gulfs, 10 5-16c. Futures variable, closing irregular at 9.97c. for March, 10.04c. for April, 10.18c. for May, 10.31c. for June, 10 43c. for July, 10.54c. for August, 10.29c. for September, 10.04c. for October, 9.94c. for November, and 9.95c. for December; sales 121,000 bales; receipts at the ports, 11,717 bales.

PROVISIONS—Lard again opened firm and advanced; the close was steady. A very fair speculation was noticed; sales on the spot 200 tcs. prime city, 11.20@11.25c.; 700 tcs. do. Western, 11.45@11.50c.; 110 tcs. off grade, 11.35c.; refined to the Continent, 11.50c.; South America, 11.80c.; for future delivery, sales 20,000 tcs., including April, 11.50@12.53c.; May, 11.54@11.59c.; June, 11.57@11.70c.; seller year 10.91c.; closing firm; April, 11.56c.; May, 11.61c.; June, 11.63@11.64c.; July, 11.65@11.67c.; August, 11.68c.; year, 10.95c. Pork quiet and nominal; mess on the spot, $19@19.25; 130 bbls. clear back, $22@22.25. No sales for future delivery. Beef and beef hams quiet. Bacon and cut meats steady. Dressed hogs easy at 9⅜@10c.; pigs, 10c. Butter steady; new creamery, firsts and extra, 24@35c.; State dairy, 16@30c.; Western factory, 10@18c.; do. creamery, 13@24c.; rolls, 10@18c. Cheese firm; State factory, 10@14½c.; Ohio, 8@14c.; creamery, 5½@8¾c. Eggs quiet; State, &c., 18c.; Western, 18c.; Southern, 17@1.½c.; duck, 28c.; goose, 45c.

GRAIN—Wheat was fairly active at an advance of ½@1¼c.; spot sales at $1.07@1.25 for red, including No. 2 at $1.21½@$1.22, delivered; No. 3 at $1.16¾@$1.18¾; 96c.@$1.21½ for white, including No. 1 at $1.11 and $1.10 for No. 3 spring, delivered; of options, sales 4,072,000 bush. No. 2 red at $1.18½@$1.19 for March, $1.18⅜@$1.19½ for April, $1.21⅛@$1.21⅞ for May, $1.22½@$1.23 for June, and $1.20@$1.20½ for July. Barley fairly active; 27,400 bush. ungraded Canada sold at 80c.@$1.04½. Rye quiet at 72½@76½c. Oats higher; sales 950,000 bush. at 50⅜@52½c. for mixed and 52@56½c. for white, including No. 2 at 51½@51¾c. for mixed and 54c. white; also No. 2 mixed at 51¾c. for April, 51⅛@51⅞c. for May, and 51¼@52c. for June. Corn higher; spot sales 164,000 bush. at 66@67¾c. for new No. 2 mixed, 64@65½c. for No. 3 do., 65@66¾c. for steamer mixed, 57@67c. for ungraded do. 69@75c. for Southern yellow; of options, sales 3,568,000 bush. No. 2 mixed at 65½@66¼c. for March, 66@67c. for April, 66⅜@67⅝c. for May, 67⅛@68¼c. for June, and 68⅜@69½c. for July. After 'Change wheat closed firmer; No. 2 red winter, cash, $1.21¼ delivered; March, $1.19½; April, $1.19⅜; May, $1.22⅛; June, $1.23½; July, $1.21⅛. Corn stronger; No. 2 mixed, cash, 67¾c., delivered; March, 66½c.; April, 69c.; May, 68c.; June, 68½c. Oats steady; April, 52c.; May, 52c.

GROCERIES—Rio options lower; sales 14,500 bags No. 7 at 7.35c. for April, 7.55c. for May, 7.70@7.80c. for June, 7.85@7.95c. for July, 8@8.10c. for August, and 8.15@8.20c. for September; spot lots dull at 9¼@10c. for fair to good; 1,000 bags sold on p. t.; mild in fair demand and steady; sales 900 bags Laguayra, 500 Central American, and 550 Savanilla on p. t. Rice selling well at steady prices. Molasses quiet for foreign, but somewhat more active for domestic, with prices steady. Raw sugar quiet, but steady, at 7@7 3-16c. for fair to good refining; sales 1,320 hhds. and 1,500 bags at 7⅜c. for centrifugal, and 6⅞c. for muscovado; refined easy; hards, 8 11-16@9¼c.; standard "A," 8¼c.

SUNDRIES.—Rosins were firm, and not freely offered at $1.65@$1.72½ for common to good strained. Spirits turpentine firmer at 49@49½c. in yard; jobbing lots, 50½c.; the Wilmington advices were better. Refined petroleum better, in sympathy with the higher prices at the Creek; 110 deg. test quoted here 8½c; 70 deg. test, 8⅜c.; home trade, 9½c. Crude certificates better and averaged 96c. for the day; sales, 2,500,000 bbls. Tallow quiet but steady; 20,000 lbs. prime, 8¼@8⅜c. Stearine quiet but steady; prime, 11⅜c.; oleomargarine, 9⅞@10¼c. Grease steady; 7,000 lbs. light medium sold at 7½c. Hops were stronger at 85c.@$1 for State 1882, as to quality and delivery; yearlings, 75@90c.; Eastern, 85@96c.; the London and German advices were better. Ocean freights quiet, and rates more or less irregular; grain to Liverpool by steam 2¼d. flour, 1s. 3d. ℔ bbl. and 10s. ℔ ton; bacon, 12s. 6d.@15s.; cheese, 17s. 6d.; cotton, ⅛d.; grain to London by steam, 3⅜d.; do. to Glasgow by steam, 2¾d. Crude petroleum and naphtha to Bordeaux, 3s. 3d.; refined do. to Hamburg, 3s.; do. from Philadelphia to

Hamburg, 3s.; grain thence to Oporto, 13c. Foreign fruits sold by auction to the extend of 5,000 cases Valencia oranges, $5@$7.25.

Chicago Grain Markets.

Quotations of Wednesday, March 28,

	9:30 A.M.—Opening.		1 P.M.—Closing.	
	Mar.	May.	Mar.	May.
Wheat...	....	1.09¾	1.05½	1.10⅛
Corn....	51¾	56¾	52½	57¼
Oats....	....	41¾	39¾	43⅝
Pork ...	....	18.35	....	18.35
Lard....	....	11.40	....	11.42½
S. Ribs..	....	9.90	....	9.95

Commerce of New York.

THE foreign imports at New York for the month of February were :—

	1881.	1882.	1883.
Ent. for cons.....	$17,812,805	$22,813,559	$19,696,245
Do. for warehousing	6,380,790	6,540,098	8,383,941
Free goods.....	9,363,596	10,815,027	10,357,176
Specie and bullion..	591,072	225,462	508,660
Total ent. at port....	$34,157,263	$40,414,146	$38,946,025
Withdrawn from warehouse.....	6,539,640	7,575,267	7,533,146

The foreign imports at New York for two months from January 1, were:—

	1881.	1882.	1883.
Ent. for cons.....	$33,174,618	$45,058,944	$39,201,542
Do. warehouse.....	12,130,280	13,799,659	17,158,378
Free goods.....	19,623,225	21,691,170	21,722,665
Sp. and bullion ...	5,314,499	600,046	1,114,183
Total en. at port-..	$70,242,622	$80,549,819	$79,196,168
Withdrawn from warehouse	14,391,864	15,251,652	15,770,949

The foreign imports at New York for eight months of the fiscal year were:—

	1881.	1882.	1883.
6 months ending January 1	$280,770,515	$252,275,460	$248,987,459
January.	36,085,359	40,135,673	40,250,143
February.....	34,157,263	40,414,146	38,946,025
Total 8 months....	$351,013,137	$332,825,279	$328,183,627

The duties received at New York for the eight months ending with February were:—

	1880-'81.	1881-'82.	1882-'83.
In July.....	$13,360,394 37	$12,079,573 95	$13,730,752 87
In August....	14,492,361 87	15,205,469 58	16,483,260 62
In September	12,856,636 10	14,104,647 51	14,690,362 74
In October...	10,574,333 53	13,011,426 27	13,095,876 47
In November	9,079,082 36	9,711,039 46	9,938,679 71
In December	9,230,734 57	10,972,321 38	10,380,192 56
In January..	10,572,559 15	13,387,515 96	12,574,837 84
In February.	11,217,766 87	13,585,053 25	12,191,602 66
otal 8 mos..	$91,383,868 82	$102,056,047 36	$103,085,565 47

The exports from New York to foreign ports for the month of February were :—

	1881.	1882.	1883.
Dom. produce.....	$27,064,988	$24,402,719	$27,296,220
For. free goods.....	682,033	803,049	736,237
Do. dutiable.....	389,282	529,289	395,913
Specie and bullion.	1,184,443	8,247,861	1,062,859
Total exports.....	$29,320,746	$33,982,918	$29,491,229
Do. exclusive of specie.....	28,136,303	25,735,057	28,428,370

The exports from New York to foreign ports, for two months from January 1, were:—

	1881.	1882.	1883.
Dom. produce.....	$55,591,308	$51,767,499	$55,080,872
For free goods....	1,990,800	1,227,631	1,345,076
Do. dutiable....	819,114	988,661	893,371
Sp. and bullion...	2,218,957	9,518,302	2,453,559
Total exports.....	$60,620,179	$63,102,093	$59,772,878
Do. sexclusive of specie.....	$58,401,222	$53,583,791	$57,319,319

The exports (exclusive of specie) from New York to foreign ports for eight months ending with February were:—

	1881.	1882.	1883.
Six months ending January 1.....	$220,839,850	$187,136,859	$188,770,362
January.....	30,264,919	27,848,734	28,890,949
February	28,136,303	25,735,057	28,428,370
Total produce.....	$279,240,572	$240,720,650	$246,089,681
Add specie	6,868,358	15,789,351	14,555,232
Total exports.....	$286,108,930	$256,510,001	$260,644,913

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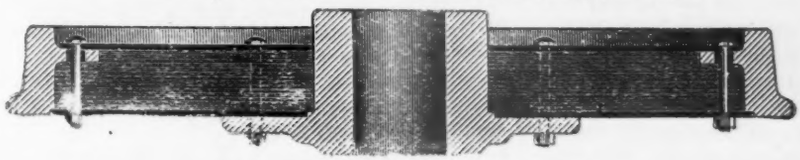

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MISCELLANEOUS.

Railroad Reminiscence.

HOW THE BELL ROPE WAS INTRODUCED IN RAILWAY SERVICE AND THE CONDUCTOR BECAME BOSS OF THE TRAIN.

WHILE talking with a number of train men at one of the railroad depots yesterday, a city reporter found an interested audience in relating the following reminiscence of primitive railroading, which he had acquired in an interview some time ago with the inventor of the present system of signaling between the engineer and train officials:

In the early days of the railroad in this country the locomotive engineer was the master of the train. He ran it according to his judgment, and the conductor had very little voice in the matter. Collecting fares, superintending the loading and unloading of freight, and shouting "all aboard!" were all that the conductor was expected to do. The Erie Railway in the North was then the New York & Erie Railroad. One of the pioneer conductors of this line was Captain Ayres. He ran the only train then called for between the terminal points. It was made up of freight and passenger cars. The idea of the engineer, without any knowledge of what was going on back of the locomotive, having his way as to how the train was to be run, did not strike the captain as being according to the propriety of things. He frequently encountered a fractious passenger who insisted on riding without paying his fare. As there was no way of signaling to the engineer, and the passenger could not be thrown from the train while it was in motion, the conductor, in such cases had no choice but to let him ride until a regular stop was made. Captain Ayres finally determined to institute a new system in the running of trains. He procured a stout twine, sufficiently long to reach from the locomotive to the rear car. To the end of this string, next the engineer, he fastened a stick of wood. He ran this cord back over the cars to the last one.

He informed the engineer, who was a German named Abe Hammil, that if he desired to have the train stopped he would pull the string and raise the stick, and would expect the signal to be obeyed. Hammil looked upon the innovation as a direct blow at his authority, and when the train left the station he cut the stick loose, and told Captain Ayres that he proposed to run the train himself, without interference from any conductor. The next day the captain rigged up his string and stick of wood again. "Abe," said he, "this thing's got to be settled one way or the other to-day. If that stick of wood is not on the end of this cord when we get to Turner's you've got to lick me or I'll lick you." The stick was not on the string when the train reached Turner's. The captain pulled off his coat and told Hammil to get off his engine. Hammil declined to get off. Captain Ayres climbed to the engineer's place. Hammil started to jump off on the opposite side. The conductor hit him under the ear and saved him the trouble of jumping. That settled forever the question of authority on railroad trains. Hammil abdicated as autocrat of the pioneer Erie train, and the twine and stick of wood, manipulated by the conductor, controlled its management. That was the origin of the bell rope, now one of the most important attachments of railroad trains. The idea was quickly adopted by the few roads then in operation, and the bell or gong in time took the place of the stick of wood to signal the engineer. Captain Ayres continued a conductor on this road under its different managers until he was superannuated and retired on a pension.—*Express Gazette.*

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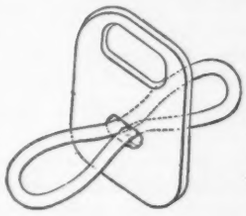

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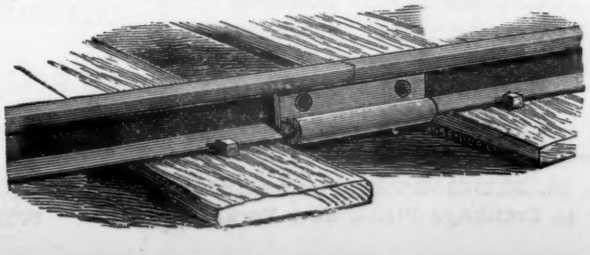

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Color Blindness.

[From the Boston Journal.]

At the hearing before the Railroad Committee on March 6, upon the question of change in the law requiring examination of certain employés with respect to visual power, etc., Surgeon Head, U. S. Army, spoke substantially as follows :

I ask leave to appear as a citizen of Massachusetts, and as an officer of the United States, obliged by orders to have a practical acquaintance with examinations for color blindness, and believing it my duty to place at the service of the community whatever special knowledge I may have acquired. Of other defects of vision I shall say nothing. I do not claim to be an expert oculist.

Question No. 2 of those propounded in the circular of the petitioners' counsel reads as follows: "If an employé is able to distinguish all forms and colors used in your railroad signals, do you not consider him fit for railway train service?"

To this question all the advocates of proper examinations will reply, "Yes, undoubtedly." We all agree that "we do not care"—*nor do we ever seek to know*—"whether he can match unerringly all the neutral shades to be found in the budget of a color-blind enthusiast,"* or anywhere else.

The real question is, How shall the ability to distinguish the signal colors be proved?

Many railroad men say than an examination with the signal colors alone is the best way—the only just and trustworthy way. Many men who have devoted years to the practical solution of this question say that this way has been amply tried and found unreliable, unpractical and impossible. The majority of these investigators recommend as quicker and surer another method. About this method a great deal of nonsense has been uttered, calculated to throw dust in the eyes of the employés, the Legislature and the public. To judge the "worsted test" by what is often said and oftener hinted about it, one would suppose that it required the examined to be familiar with, or at least to be able to distinguish from each other, many delicate shades of color. You have seen the method—what is the fact? In less than a minute the examined (in this case your own Chairman) proves his freedom from color-blindness by showing that he can distinguish *one* color—*only one*—of which he need not even know the name. If he can see *green*, we know that he can see *red*. Hereafter, if any one brings up the stale witticism that we require the engineer to have the qualifications of a haberdasher, the answer should be, "My good man, you either do not know what you are talking about, or you are willfully falsifying." No person who can distinguish the railroad signal colors runs any risk of failing with this test in competent hands.

It is not uncommon, in connection with this subject, to hear talk of "scientific methods" and "practical methods," as if the two were of opposite characters. But a scientific method means simply a method based on knowledge. If "practical" means that which can be effectively used by every one, without knowledge or training, then the locomotive engine is one of the most unpractical inventions ever seen. The most practical method in anything is that which accomplishes its object most expeditiously and most surely. Suppose the case of a savage, ignorant of any better way of slaying his game or his enemy than the club or the lance. One comes to him with a scientific invention—the rifle—which he assures him will answer his purpose better than his former rude weapons, and explains its use. "But," says our wild friend, "why go to work in this roundabout way, mixing chemicals and putting them into this complicated machine? That is all scientific. Give me the practical way! I know that lances will kill." In justice to the primitive races, I must say that among the many savages I have personally known, I never met one who was such an idiot as to reason thus. The actual savage is ready enough to adopt the inventions of science.—as our army knows to its cost. But if your rifle be placed in unskilled hands, it is as likely to do harm as good; and so it is with the really best test for color-blindness.

We have been threatened with ridicule; and treated with a quotation from Horace, to the effect that ridicule often avails where sober reasoning is ineffectual. But Horace was speaking of things in themselves ridiculous. Let me remind you of a saying older than Horace, which I have not learning enough to quote in the original, but the translation of which reads: "The laughter of fools is like the crackling of thorns under a pot"—meaning, I suppose, that it is noisy, short-lived, useless and harmless.

You are asked to recommend that the competent persons intrusted with these examinations be forced by law to discard "the methods of a Holmgren, a Donders, a Schilling and a Pfflüger,"‡ and to confine themselves to a method which they believe to have been found upon trial practically worthless.

Such action would be precisely like committing a hospital to the charge of skilled physicians, forbidding them to follow the treatment of a Liston, a Ferguson, a Bigelow or a Warren, and restricting them to the remedies of Mrs. Lydia Pinkham.

* President Watrou's letter.
† Under the present law the Examiner may confine himself to the signal colors if he choose.
‡ Mr. Carrigan to the committee.

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TRAMWAY DEPARTMENT.

[This department of the AMERICAN RAILROAD JOURNAL is devoted to the interests of Street Railways; and communications, suggestions and items of information relative to their organization, management and appliances are solicited by the editor. All communications should be accompanied by the name and address of the writer. The English nomenclature of "Tramway" is adopted in this department as being of greater convenience and more specific in its meaning than "street railway," though in allusion to individual organizations we shall preserve their corporate titles. It is our hope to nationalize the term Tramway which is now generally used in every English speaking territory with the exception of the United States.]

A NEW FIELD FOR TRAMWAYS.

THE hours of the day during which tramways may be said to conduct their business, are between five o'clock A. M. and eleven o'clock P. M. The remaining six hours are virtually periods of idleness to the majority of tramways and in the smaller towns it is customary to discontinue the running of tram-cars altogether after midnight or some earlier hour of the evening. In larger cities a few cars are kept running all night to accommodate those travelers who find occasion to travel at abnormally late hours, but it is doubtful if the receipts of tramway companies from all-night cars more than pay their necessary running expenses, and for the purposes of argument it may be admitted that the profits of tramways are all made between five in the morning and eleven at night. Practically the tramways are idle one quarter of the time.

It strikes us that this time might be economized and turned to the profit of the tramways, without any interference with the running of the few night cars that the accommodation of the public demands. Not only may tramways themselves experience an appreciable benefit by this economy of time which we suggest, but the people dwelling along their lines. Possibly we are not the first to make the suggestion and it is also within the bounds of possibility that it is for some reason not known to us impracticable, but we offer it nevertheless and commend it to the attention of those interested in the management of tramways either officially or financially.

It is, in brief, to employ the hours of the night in which passenger travel is either very light or entirely suspended upon tramways, in transporting baggage and light freight upon their tracks and delivering it at various points along the lines. At present this freight and baggage transportation is accomplished by drays and heavy wagons which are necessarily slow in movement and at the same time create such noise and clatter that night is made hideous and the slumbers of the people living on the streets are woefully curtailed thereby. The employment of light though strong platform or freight cars upon tramways to carry on this transportation would obviate both of these difficulties, and remove all ground of complaint. The cars could be run noiselessly and at a good rate of speed, there being no need of the tinkling bells generally associated with tram-cars, while the streets are free from the numerous obstructions met in the daytime. In New York City especially we should imagine such a plan both practicable and beneficial. The numerous wholesale houses which are constantly engaged in shipping and expressing goods to points far and near, might load their wares upon cars of their own, and despatch them to some central point of delivery. These private cars could, while loading, stand upon a side track, the use of which would be impossible during the day, and after the goods were duly loaded, the cars could wait until a train composed of other tram-cars took it up and conveyed it upon the main lines to its point of destination where it could be reclaimed by its owners. Possibly it would not be feasible to run each car independently, but the adoption of a system of tram trains presents, to us at least, no difficulties of an insurmountable nature. Side tracks could be constructed at points near the shipping and express headquarters where the cars could be unloaded, while during the day the cars could be housed either upon the premises of the owners or at the tramway stables from which they could be run at night and dropped at the doors of the business houses to which they belong.

As a matter of course such transportation of freight would be impossible during the daytime, and the system suggested therefore, could not be universally adopted, for much freight is of necessity transported during business hours, but within limits we should imagine the employment of tramways for the purposes and in the manner suggested quite feasible and useful. It must be remembered that the additional tracks necessary to conduct this system of transportation would only be in use during those hours when other traffic is entirely suspended, and with this fact in view it would seem possible to lay tracks direct to the wharves of steamers or to freight depots, and by a system of switches run the cars to these points where the loading or unloading might be accomplished with the least trouble and without intermediate handling. The tramway companies could if they deemed it better own the cars and charge a fixed rate for the transportation of freight and a rental for the use of the side tracks, but in either event the adoption of such a scheme would result in a profit to tramways during hours that their roads are now idle, and at the same time do away with much of the noise and confusion at present attendant upon the removal of freight in the night.

As we said before, the plan may be open to serious objections to an extent that might render it impracticable but we offer it for what it is worth and commend it to the attention of those immediately interested. The suggestion may at any rate serve to prove that we are sincere in our endeavors to consider the interest of tramways, and are ready to lay any project before the readers of this department of the AMERICAN RAILROAD JOURNAL that may either directly or remotely be of benefit to tramway management.

The Central Street Railway of Baltimore.

THE immediate success of the Central or Crosstown railway, of Baltimore, Md., as it is more familiarly known, is a subject of much gratification to the people residing along its route as well as to the large number of persons who daily travel over it. The need of such a line directly connecting the Eastern and Northwestern sections of the city was a long acknowledged want, and since cars began running several weeks ago the patronage has been much larger than was expected. The railway as completed was turned over to the directors a few days since by Mr. W. D. Crane, the contractor. Mr. Crane, in the construction of the road, profited by his wide experience in such matters, so that the railway is fitted with all the modern improvements. The bed of the road has been laid with remarkable evenness and the running of the cars is accompanied by few jolts or unpleasant jarrings, as is the case with many of our street railways. Last summer a strike occurred among the workmen, but the prompt action of Mr. Crane obviated any delay and all further trouble. The road is a model of construction, and when Mr. Crane turned it over to the directors, they congratulated him profusely on its excellence. It has been dubbed by several "The Nickel-plate Railway, of Baltimore."

The road consists of a double track, five miles long, beginning at Broadway and Lancaster streets, and continuing up Caroline to Preston, to Eutaw, to Biddle, to Argyle avenue, to Dolphin, to Myrtle avenue, to Lanvale, to Fulton avenue.

The stables of the company, situated at Preston and Constitution streets, are the most commodious in the city, covering over 30,000 square feet, while the surrounding grounds are over seven acres in extent. In the construction and arrangement of the buildings and grounds Mr. Crane has shown a great regard for the health of the horses, which are allowed to travel only one half the route, when they are turned into a pasture where there is plenty of food. This plan is praiseworthy and humane. The cars of the company are very handsome; each beautifully decorated with over forty oil panel paintings, cushioned in maroon plush and elegantly finished in every way; they have been very much admired by all who have traveled in them. In

fact the road and all its accoutrements are objects of praise on every hand.

Tramways in the Courts.

THE dispute between the Chestnut and Walnut and Gray's Ferry Passenger Railway Companies of Philadelphia as to the right of the latter to lay a track along Twenty-second street from Walnut to Chestnut, was recently decided in favor of the Gray's Ferry Company by the Supreme Court, in an opinion by Justice Paxson. The injunction therefore which had been ordered by the Court of Common Pleas No. 2 was dissolved, and the bill of the Chestnut and Walnut Street Company was dismissed at its cost. In his opinion Justice Paxson holds that the act of incorporation under which the Chestnut and Walnut Streets Company claimed the exclusive right to the use of the street was nothing more than a license or promise by the State to the company, which the former could revoke or annul at will.

"In the present age of corporate greed," says Justice Paxson, "it would be dangerous to hold the contrary doctrine. Were we to do so, corporations, instead of being the creatures of the State, might become its masters. The object of the act was to protect from competition, nothing more. It is difficult to see how the laying down of a track and its use for a single square by cars running in an opposite direction can produce competition. Even if we are wrong in this the principle is well settled that a franchise is property, and like any other species of property may be taken by the Commonwealth, or one to whom the Commonwealth has delegated its powers of eminent domain, upon making compensation. Therefore the most that can be claimed by the Chestnut and Walnut Streets Company is compensation for the use of this one square." The Judge said that the Chestnut and Walnut Streets Line was in no sense the guardian of the rights of the city or of the people, and it could not interfere with the use of the streets beyond the privileges conferred by its charter.

The New Cars upon the Fourth Avenue Line.

THE first appearance of the new cars on the Fourth Avenue Railroad of this city took place on Sunday last. They had been promised in the beginning of the winter, when the fare was reduced from six to five cents. One of the attachés of the company stated that the reduction in fare had considerably increased the number of the patrons of the line, especially on week days, and in consequence it had become necessary to put on more cars. He added that the travel below Eighth street (where a proportion of the cars stop) was much greater than formerly and now the headway had been reduced from three and a half minutes to two minutes all the way down town. Many complaints had been made that three and a half minutes was too long a time to wait for a car, especially on a cold day.

The new cars (twenty in number) are the handsomest yet seen in this city. The finishing is done in polished maple, oak and white ash. The panelling above the windows looks very pretty with a simple but tasteful design painted in harmonious colors. The brackets supporting the hand rods and the other interior metal work are of bronze. The seats and backing are of cane, stuffed as in the new "L" road cars. Two mirrors, one at each end of the car, afford the young ladies an opportunity of arranging their bangs and the young gentlemen their collars and ties. The lighting is also improved, for, in addition to the two end lights, is an extra powerful lamp in the center of the ceiling. In the new cars, however, there seem to be no means for heating. In the beginning of the winter one of the officials was asked why the company did not follow the example of the Second avenue line and warm their cars. He answered that they had not thought of that. Their patrons express the hope that they may think of it by next winter.

TRAMWAY NOTES.

MR. H. F. MCGREGOR, secretary of the Galveston (Texas) Street Railway, has consummated the purchase of the controlling interest of John Shern in the Houston City Street Railway Company for a Galveston syndicate. Mr. Shern, president of the Houston Line, and all the directors have resigned and the new managers will take charge at once. A report is current that Col. Sinclair, manager of the Galveston Street Railway, will become the superintendent of the Houston line, and that he will purchase or lease the Fair Grounds and erect on it a grand pavillion equal to the one he built in Galveston. If the report proves true, there will be a property boom all along the Houston City Street Railway lines. Col. Sinclair lifted the Galveston lines from their financial ruts, made them pay and increased property values everywhere in their neighborhood.

MENTION was recently made in these columns of the experimental trip of cars propelled by electricity on a London tramway. The car ran well at the rate of six miles an hour and the trial was pronounced entirely satisfactory by the scientific and commercial men who witnessed the trip. General Hutchison, who had been closely observing the working of the car during the morning, and was satisfied with what he had seen, expressed himself confident that the Board of Trade will grant the necessary licence, and, when this official sanction is obtained, the first electrical cars will run on the Acton Road. Sir Daniel Cooper, chairman of the Electrical Storage Company (Limited), after the experiments presided at a luncheon at the Star and Garter Hotel, Kew Bridge, and interesting speeches by men of eminence in the scientific world were delivered.

THE impression prevails in New Orleans that the projectors of the elevated railroad in that city will, if they fail to get the tramways to use their tracks, use them for an elevated street railway. It is stated that owing to the crowded condition of the streets near the levee that an elevated railway would do an immense business along the river front, as quick transit from the lower to the upper limits of the city is something that is greatly needed, especially during the busy season for the reason that cars running near the up town cotton presses are often compelled to creep along, owing to the streets being crowded with drays and vehicles of all descriptions.

AN act to incorporate the Wilmington (Del.) and Brandywine Passenger Railway Company will be introduced in the General Assembly at Dover in a few days, empowering the corporators to construct a tramway from the P., W. & B. railroad station at Front and French streets via French, Sixteenth and Market streets to the Riverview cemetery. The persons asking for the passage of the act, it is understood, are the incorporators of the Wilmington Pioneer Coach Company.

A CORPORATION known as the Brooklyn Cable Railroad Company has filed a map and profile in the office of the Register of Kings county, N. Y. The president is Edward A. Phelps, Jr., and the engineer Samuel H. McElroy. According to the map and profile the company's object is to operate a line of traction cars on Montague street, Brooklyn, between City Hall square and Wall street ferry. At present cabs are used.

MR. JOHN MCCARTHY has been elected president of the Citizens' Passenger Railway (Tenth and Eleventh streets), of Philadelphia, succeeding the late George Williams. Mr. McCarthy has been for the past twenty-five years connected with that company as stockholder and director, and is well known in passenger railway and general business circles.

INVENTORS will find a fertile field in which to exercise their ingenuity by examining the special needs of tramways with a view to perfecting appliances for their cars or track system. Tramway managers are alert to recognise and employ useful inventions which will improve their facilities and increase the comfort of their passengers.

THE tramway building from the city of San Luis Potosi to Santuario de Guadalupe, a suberb, is completed.

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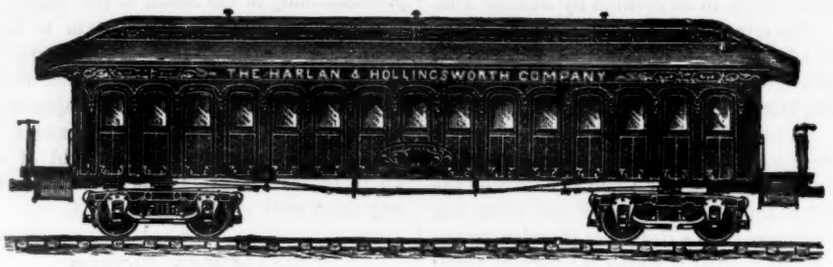

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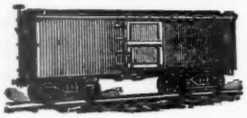

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NEW INVENTIONS.

TO INVENTORS AND PATENTEES.

THIS department is devoted to the notice, consideration and description of new and valuable inventions applicable to Railroads, Steam Navigation, Machinery, Manufactures, Mining and Tramways. New patents of this description appearing in the weekly Official Gazette of the Patent Office are duly noticed in our columns, and full descriptions of those most useful and important are published *free of charge*.

☞ Inventors, Patentees, and the holders of Patents are requested to forward us their claims and specifications, with description of their inventions for our examination with a view to their publication in this department. Descriptive cuts, diagrams, and illustrations of the same are also desired.

☞ In selecting inventions for full description in this department, the editor will be guided solely by their importance and value, and their interest to the readers of the AMERICAN RAILROAD JOURNAL.

A WORD OR TWO OF EXPLANATION.

[WE reprint the following from our issue of Feb. 24, and shall keep it standing at the head of this column until the purposes of the Department of New Inventions are fully understood by all our readers].

THE department of New Inventions is conducted in the interests of our readers and of inventors of devices applicable to Railroads, Steam Navigation, Mining, Street Railways, etc. We believe that full descriptions of new and patented appliances of this nature will prove interesting to our readers, and cannot fail to bring the inventor's device into the prominent notice of that class of persons among whom he looks for the heaviest sales and royalties. No charge is made for the insertion of such description in this department, but there is a *sine qua non* requisite in all inventions before we will devote space toward their publication. They must be *new* and *valuable*. It is not our intention to offer a free advertisement to any person, and the inventor whose invention is given full description in the AMERICAN RAILROAD JOURNAL must have produced something of importance and value.

We have not established this department in a spirit of philanthropy, and do not lay claim to any special generosity in publishing descriptions of new inventions free of charge. Our aim is to increase the number of both our readers and advertisers. The continued publication of valuable patents will, we think, attract readers who are interested in the problems connected with railroad and steamboat management, mining, the management of street railways, and the like, while the value of an advertisement in the columns of the JOURNAL will ultimately be apparent to inventors of appliances tending to solve these problems. It is purely a business transaction, and we do not wish inventors to feel themselves under any obligation to us through our description of their patents. If they choose to advertise or order a number of copies of the AMERICAN RAILROAD JOURNAL containing such descriptions, we would be glad to have them do so, and may possibly ask them for an advertisement or an order, in the form of a fair business proposition, but they are under no obligation to accept our advances. In other words, there is *nothing* obligatory on their part, but at the same time there is nothing obligatory on our part either. We reserve the liberty to ignore any invention whose description is sent us without assigning any reason for such action, and if our opinion and that of the inventor as to the utility of the invention chance to differ, we propose to be guided solely by the former.

The cause of these few words of explanation lies in the fact that many inventors seem to recognize an obligation on our part to describe in full their inventions, while they in return do not feel compelled to go to any expense in order to acknowledge such publication. It would be manifestly impossible for us to publish full descriptions of all inventions of this class, when the weekly list of new patents of the sort numbers fifty or more. Every new invention of the character mentioned above is noticed in our weekly list of patents, and we shall further endeavor to give a brief description of all, but in selecting those for extended notice, we are guided simply by their importance and general utility. Our advertising pages are open at reasonable terms to all inventors and holders of patents, but this department is entirely our own, and we must be pardoned if we choose to conduct it in the manner we deem best. If inventors desire a medium through which valuable inventions of a certain class are brought into public notice free of charge, they will aid us in this direction by subscribing to and advertising in the RAILROAD JOURNAL, but they should do so solely in a practical business way, not influenced by any feelings of obligation, while none exists upon their part so to do, nor upon our part to publish any description that is forwarded us.

List of Patents for Inventions Relating to Railways, Manufacturing, Mining, Tramways, Machinery, Etc.

BEARING DATE OF MARCH 20, 1883.

274,101. Electric Motor: John B. Atwater, Chicago, Ill.
274,102. Boiler-Feed Apparatus for Engines: Jared A. Ayres, Mystic River, Conn., assignor to the Pneumatic Engine Company, same place.
274,106. Car-Coupling: Gurden L. Chamberlin, Marietta, Ohio.
274,107. Car-Door: Charles W. Coller, Hannibal, Mo.
274,133. Safety-Valve: Albert C. Meady, East Somerville, assignor to the Crosby Steam Gage and Valve Company, Boston, Mass.
274,144. Car-Brake: Albert C. Roland and Adrian Harper, Albuquerque, N. Mex.
274,152. Car-Axle Lubricator: Francis M. Taneyhill, Barnesville, Ohio.
274,154. Steam-Pump: Eli Thayer, Worcester, Mass.
274,155. Hydraulic Valve: Eli Thayer, Worcester, Mass.
274,159. Car-Axle Box: Eleanor Whiting, Brooklyn, N. Y., assignor of one-half to Josephine Mary Smith, same place.
274,160. Car-Truck: Eleanor Whiting and Joseph Nottingham Smith, Brooklyn, N. Y.; said Smith assignor to Josephine Mary Smith, same place.
274,165. Metal Packing for Piston-Rods: Samuel Armstrong, Newark, N. J.
274,180. Car-Coupling: William De Cew, Buffalo, N. Y.
274,188. Nut-Lock: Samuel D. Groves, Sacramento, Ky.
274,192. Device for Loading Cattle on Railway-Cars: Hiram C. Hawley, Valley Falls, and James I. Davis, Topeka, Kans.
274,197. Car-Step: Thomas B. Howe, Scranton, Pa.
274,200. Railway Safety-Switch: Chas. T. Johns, Cleveland, Ohio, assignor of one-half to Charles D. Everett, same place.
274,218. Car-Wheel: William H. Paige, Springfield, Mass.
274,222. Check-Valve: Julius P. Pfau, Lansingburg, N.Y
274,240. Stock-Car: Samuel C. Wiser, Chicago, Ill.
274,301. Steam-Boiler: Patrick Fitzgibbons, Oswego N. Y.
274,309. Combined Railroad Tie and Chair: William H. Gibbs and George W. Snook, Hopewell, N. J.
274,319. Street-Car Fare-Box: John R. Hare, Baltimore, Md.
274,321. Steam Fire-Engine: Wm. H. Havens, Paterson, N. J.
274,355. Station-Indicator: Ben McCrary, Hot Springs, Ark.
274,364. Valve: Henry Oldendorph, Belleville, Ill.
274,377. Railway-Chair: Joseph H. Ream, Canton, Ohio.
274,388. Automatic Car-Brake: Charles V. Rote, Lancaster, Pa., assignor of seven-eighths to John W. Holman, and Robert M. Agnew, same place, Henry Hice, Beaver, Pa., and Michael D. Harter, Mansfield, Ohio.
274,399. Car-Starter; Theodor Soetbeer, New York.
274,422. Car-Coupling: George W. Vunk, Brockport, N. Y., assignor of one-half to Byron E. Huntly, same place.
274,436. Variable Eccentric for Steam-Engines: Milan C. Bullock, Chicago, Ill.
274,437. Compound Steam-Engine: Milan C. Bullock, Chicago, Ill.
274,439. Dumping-Car and Apparatus for Transporting the same: John J. Clarke, Patapa, Peru, assignor of one-half to A. W. Colwell, New York.

Car-Coupling.

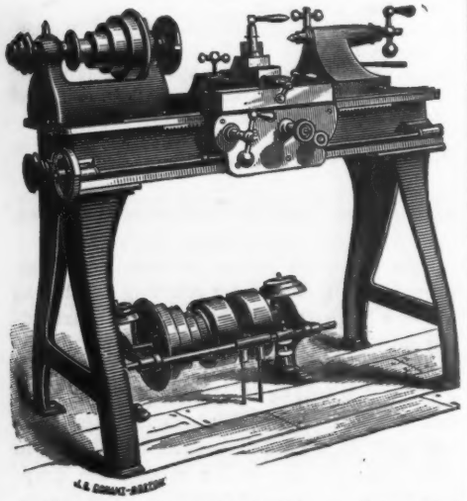
NATHANIEL HALSTED, OF SCRANTON, PA., PATENTEE.

THIS invention relates to certain new improvements in devices for coupling cars by the use of a hinged lever having its handle extending out toward the side of the car; and the object of the present invention is to produce such a device that will be at once simple in its construction, easily and cheaply manufactured, effective in its operation, and readily applied to the bumpers of any car for raising the coupling-link to the desired height to enter the opposing draw-head with ease and perfect safety to the brakeman or train-hand, thereby preventing the risk of life and limb, as the train hand stands outside of the rail entirely away from the bumpers. It will also enable the ready adjustment of the coupling-link by the lever to suit any difference of elevation there may be in the opposing draw-heads, while at the same time the lever will, when the handle is released of its own weight, drop under, and thus automatically bring the handle up against the bumper out of the way. To the bumper of a car is attached a bifurcated plate having its bifurcations terminating in bearings for the journals of a lever. These journals have each

an enlarged extension, so as to prevent the sides of the lever from coming in contact with the sides of the bearings and hold the lever at the point of connection midway between the bearings. The journal-bearing is of ordinary shape, while the other is elongated in a horizontal direction in order to allow a lateral play to the journal therein, thereby giving the lever a longitudinal action in order to adjust the coupling-link to the opposing draw-head when operated upon by its handle which is curved in an outward direction toward the side of the car, so that the coupling of the cars may be effectually performed without the necessity of the brakeman or train-hand entering between the cars, thereby preventing the risk of his life and limb. The blade of the hinged or pivotal lever is of a weight greater than the handle, and is curved in order to come under and adjust the coupling-link when the handle is operated. After the coupling has been effected and the handle released, the weighted lever, having one of its journals working free in the elongated bearing of the bifurcated plate, falls of its own weight under the draw-head and automatically brings the handle up against the bumper out of the way, thereby rendering the lever self-adjusting and always ready for use.

For use on cars having the bumpers longer than those ordinarily employed, the lever may be bent up in such a manner as to come under the draw-head without departing from the general nature of the invention.

Birkenhead's New Patent Single Head Lathe.



The lathe is furnished with a 5-foot bed counter-shaft, 650 lbs., 14 inch swing, 7 inches over carriage, 2-inch hollow spindle, 2-inch taper bearings at face plate, so that a close fitting spindleis always obtainable. There are three patterns of cones adapted to light or heavy work. The cut shows a No. 1 cone for light work, 6 3-4 inch diamter, 11-16 drop, 1 1-2 inch belt, 4 speeds. A No. 2 cone is 8 inch diameter, 3-4 inch drop, 1 1-2 inch belt, 4 speeds. A No. 3 cone is 8 inch diameter, 1 inch drop, 2 1-2 inch belt, 3 speeds carriage is weighed by springs and rolls; by turning a screw more or less weight can be obtained. Strain on feed belt is adjustable by raising or lowering the lower cone which is hung on an arm which clasps the feed-rod box in the form of a split sleeve, which also forms a bonnet or cover to protect the teeth from dirt or chips. The feed belt may run very slack as it takes its motion from spindle (instead of a slow motioned stud as is usual), which increase of speed gives it po" er as the speed is decreased by the small pinion which goes into the larger wheel on feed-rod. There is a space between this pinion and cone, so that when the stop is adjusted on any part of feed-rod and the projection on the apron comes in contact with the stop, it moves the rod and gear out of contact with the pinion; then the carriage stops feeding. When the carriage is moved back for another chip, a spiral spring in the right hand box forces the feed-rod and gear back in position ready for the next chip, this makes a reliable stop motion which is not liable to get out of order. The worm on feed-rod runs in an oil box. One person may run a number of these Lathes without danger of damage to the work. It also signals or calls the attention of the operative when it stops; this stop when not required in general work, can be sliped out of the way. No. 2 cones are applied to all Lathes with buck gears. No. 1, 2 and 3 cones are for single head Lathes. No. 3 cone makes a strong pulling Lathe. The hangers are so made that they can be raised or lowered to savc the annoyance of unlacing and lacing the belt to take it up. These Lathes are manufactured by JOHN BIRKENHEAD, at Mansfield, Mass.

Tool-Holder for Lathes.

CONRAD MÜLLER, OF COLUMBUS, O., PATENTEE.

The object of this invention is to provide a new and improved device for holding and adjusting the cutting-tool of a lathe in such a manner that it will be held firmly and can be adjusted very nicely and accurately without being affected by the inaccuracies and lost motion of the screw-spindle for moving the tool-holding block.

The invention consists of a screw and nuts mounted thereon for adjusting the tool-holding block or slide of a lathe within the limits of the lost motion of the main spindle, which nuts have graduated collars to facilitate their accurate adjustment.

It further consists of a cross-piece in which this adjusting-screw is journaled, which cross-piece is provided with devices for locking it in position, and a wedge provided with a squared aperture, combined with an eccentric disk for moving the wedge to lock or unlock the cross-piece. The following is a description of the device and its operation.

A sliding block, provided in its bottom with a transverse dove-tailed recess, rests on the dove-tailed tracks of the frame, which tracks pass into the dove-tailed groove in the bottom of the block or slide. A screw-spindle, passing into a nut in the bottom of the block or slide, is journaled in the end of the frame, and is provided with a crank-handle or a hand-wheel for turning it, and thereby moving the slide or block forward or backward. The block is provided in its top with a longitudinal groove for receiving the bottom of the tool-holder. A cross-piece provided in its bottom with a dove-tailed recess rests on the tracks. A screw-spindle which is held to turn in the block, but cannot move longitudinally in the same, passes through the cross-piece and on it nuts are mounted on opposite sides, which nuts have graduated collars. A wedge is placed between one of the shanks of the cross-piece and the outer surface of one of the tracks, and this wedge is provided with a square or oblong aperture in which a disk is located, which is eccentrically mounted on the inner end of a pintle passing through this shank of the cross-piece and having its outer end squared, so that a key will fit thereon. The spindle is provided with a rigidly-mounted collar to prevent a movement of this spindle in the direction of its length.

The operation is as follows: The block or slide is moved on the tracks by turning the spindle; but as this spindle has some lost motion the cutting-tool cannot be adjusted very nicely and accurately, especially in cutting screw-threads. To accomplish this is provided the screw and the nuts. When the tool has been adjusted by means of the spindle, the cross-piece is locked in place on the tracks by turning the pintle in such a manner that the eccentric disk will push the wedge in between the shank of the cross-piece and the outer surface of the track. The block is then to be moved slightly forward and the nuts so adjusted that its inner end will be from the corresponding side of the cross-piece the distance the block is to be moved. Then the other nut is turned, whereby the block will be moved forward until the inner end of the former rests against the cross-piece. In a similar manner the block can be moved in the inverse direction.

Chain Motor.

HENRY GURNEY, OF EAST NODAWAY, IOWA, PATENTEE.

The inventor of this device was prompted to perfect it by watching the operation of "check rowing" in a neighbor's corn-field and concluded that if corn could be put into the ground by means of an anchor remote from the necessary machinery the same principle could be applied in pulling railway trains and tram-cars up steep gradients.

The operation of the contemplated device is very simple. If it were desired to pull a train up an inclined surface the chain would lie between the rails, and be solidly secured at the top of the hill. It would engage with a sprocket wheel placed on the main axle of the engine in such a manner that the driving mechanism of the engine would pull on the chain, which being fast and stationary, must cause the engine to roll up the hill and carry its load also.

Bell's Improved Ventilator for Railway Closets.

This device is a simple arrangement by which perfect ventilation is obtained in the closets of passenger cars, at the same time securing a downward current through the pipe and avoiding the upward draught which is ordinarily so

troublesome. It is placed under the floor of the car directly beneath the pipe, and consists of a funnel shaped hollow cone with a curved surface. The motion of the train in either direction causes the air to press downward through the funnel creating a vacuum at the base of the pipe thus securing a downward current through the lower orifice of the basin. The ventilator has been in use on a number of railways and has acted with perfect satisfaction. It has been ordered for over 700 cars on the Pennsylvania Railroad and is now being tested on the New Jersey Central, Erie, New York Central, and Union Pacific roads. A marked feature of the device is that it may be placed upon any car without alteration and at small expense. The ventilator is under the charge of E. Y. Bell, at No. 50 Exchange Place, New York.

A Powerful Locomotive.

The following is a description of the new locomotive Pilgrim constructed at the shops of the Old Colony Railroad Company, to run on the New York line in connection with the new sound steamer Pilgrim: Diameter of cylinder, 18 inches, 24 inches stroke; of driving wheels, 72 inches; truck wheels, 30 inches; tender wheels, 33 inches; diameter of boiler, 52 inches at smallest point inside; length of fire-box, 72 inches inside; width of same, 35½ inches; number of boiler tubes, 212, each 11 feet 6 inches long by 2 inches diameter; boiler made of steel plate seven-sixteenths of an inch in thickness; double riveted fire-box of steel plate five-sixteenth of an inch in thickness; flue sheets one-half inch back and five-eighths inch front; total amount of heating surface, 1,365 square feet; boiler capable of running at 160 pounds pressure to the square inch; weight of engine in working order, 85,500 pounds; tender, 57,800 pounds; total length over all, engines and tender, 52 feet 8 inches. The engine and tender are painted black, with scarcely any ornamentation. The automatic brake is used on tender and driving wheels. The new locomotive takes the place of the old inside connected engine, the Pilgrim, which was constructed about thirty years ago by the Amoskeag Manufacturing Company, of Manchester, N. H., and has been in constant use ever since. When first completed the old Pilgrim was called a very large and powerful machine, and was put to service on the Fall River steamboat train. But compared with the present Pilgrim this was a small affair.

Keely's Monster Engine.

The Philadelphia *Record* says that the work of erecting the final and complete motor that is to revolutionize all motive power has been commenced at the shop of Mr. Keely in that city. According to that paper thirteen tons of material to be used in the construction of the engine had already arrived, with more to come. The apparatus will have a capacity of five hundred horse-power. The parts of the engine are massive, and are composed of Austrian gun metal and the hardest of hardened steel. The affair is a counterpart of the small engine which has been operated in the past. The major portion of it was made in that city, while some of the sections were cast in Baltimore and New York, the idea being not to have all done in one place, so that the founders would gain an idea of the engine before it is erected and experimented upon. After the engine has been operated successfully it will be removed from the shop and placed upon trucks. It is then proposed to adjust it for use as a locomotive, and the first journey is to be made to New York. Mr. Keely is bending all his energies to have the trial trip occur on the coming Fourth of July.

A Powerful Testing Machine.

Messrs. Reihlé Bros., Philadelphia, have recently completed, at their scale and testing machine works, Ninth street, above Master, a greatly improved screw-power machine of 120,000 pounds capacity, for testing the tensil, transverse and compressive power of iron, next to the largest they ever manufactured, one of 150,000 pounds capacity being now in use by the Bradlee Chain Company of Philadelphia. A trial of its tensile strain was given recently, an inch wrought iron bolt about 15 inches long being used for the test. The bolt was confined in the boxes by patented cast-steel wedges with a slightly rounded up face. The power was applied and continued for ten minutes, when, at a strain of 54,000 pounds, the bolt parted, it having been elongated about two inches and reduced half an inch in diameter in the operation. The machine worked quietly and smoothly.

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SAWS AND FILES.

THE UNRIVALLED PRODUCTION OF THE E. M. BOYNTON SAW AND FILE COMPANY—THE RECENT RE-ORGANIZATION.

FOR a good many years past few manufacturers have been so well or favorably known in their respective lines of business as Mr. E. M. BOYNTON, the saw manufacturer, in his. The saws and files, etc , made by him are regarded by experts as superior to anything else of the kind made in any part of the world, and the demand for them has been rapidly growing. On January 1 a re-organization of the concern occurred, a joint stock company being formed under the style of the E. M. Boynton Saw and File Company, with the following officers: E. M. Boynton president, C. W. Boynton vice-president, D. Farrington secretary, and T B. Cummings, treasurer. The office and warehouse remain at the old address at 80 Beekman street, and the factory, an engraving of which is annexed, is in Brooklyn. This factory is probably the most complete establishment of its kind in the country. It can turn out more than one thousand saws per day. The company control fifteen of the most valuable patents ever taken out upon saws. One of the great specialties is the patent "Lightning" law, patented in 1876. It has what are called "M" teeth. The patent M teeth being double, with one dress and set, cut only with outside edges, one blade follows while the other is cutting, and vice versa. As the saw is drawn back and forth, meeting the fibre direct at an opposite angle from the old V tooth, the fibre is cut off by a forward and upward motion; the cutting is mechanical, inevitable, steady and uniform. In practical use the following advantages are observed: 1st. Simplicity in sharpening. No shortening required—all teeth double M cutting clearer. 2d. A cutting edge. The file is only used to dress teeth edge being given with whetstone—saving of friction, as well as files, steel, strength and time. 3d. Double teeth—are stiffer, less vibration. 4th. Consequently, may be and are gummed longer, saving expense and frequent repairs. 5th. Are stronger than any other. 6th. Direct cutting (upwards) avoids grit, divides resistance, relieves the pressure and wear on point of teeth—avoiding the grinding, weighing and clogging of old style saws. 7th. No waste of power, as in the old scratching system, the cutting being direct, uniform, economical and continuous. 8th. In direct cutting, edge holds longer than if dragged over the timber. 9th. It is the front cut of the hand saw cutting both ways. 10th. This saw cuts with less friction, much easier and faster than any heretofore known, while more simple than any other patent saw. The "Lightning" combines the two principles in one tooth. One point of M follows while the other is cutting, which regulates the feed, and enables the teeth of the plow or vertical form to be used for both cross cutting and slitting. This patent tooth is as simple as any hand-saw tooth to sharpen. Boynton's saws were effectually tested before Judges at the Philadelphia Fair, July 6 and 7. An ash log, eleven inches in diameter, was sawed off, with a four foot "Lightning" cross-cut, by two men, in precisely six seconds, as timed by the Chairman of the Centennial Judges of Class 15. The speed is unprecedented, and would cut a cord of wood in four minutes. The representatives of Russia, Austria, France, Italy, Spain, Belgium, Sweden, England and several other countries were present, and expressed their high appreciation. Many of the leading saw manufacurers of the world were present, but not one accepted Mr. Boynton's $1,000 challenge. The M principle is applied to saws of various kinds and for all sorts of purposes. In consequence of the practical value of the patents taken out by Mr. Boynton the earnings of the factory have multiplied fivefold in five years, and there is no doubt that an even more rapid growth will be recorded in the future.—*New York Scientific Times and Mercantile Register, Feb.* 3, 1883.

This Company also manufactures the **Noon-Day Stove Polish**, so rapidly coming into favor.

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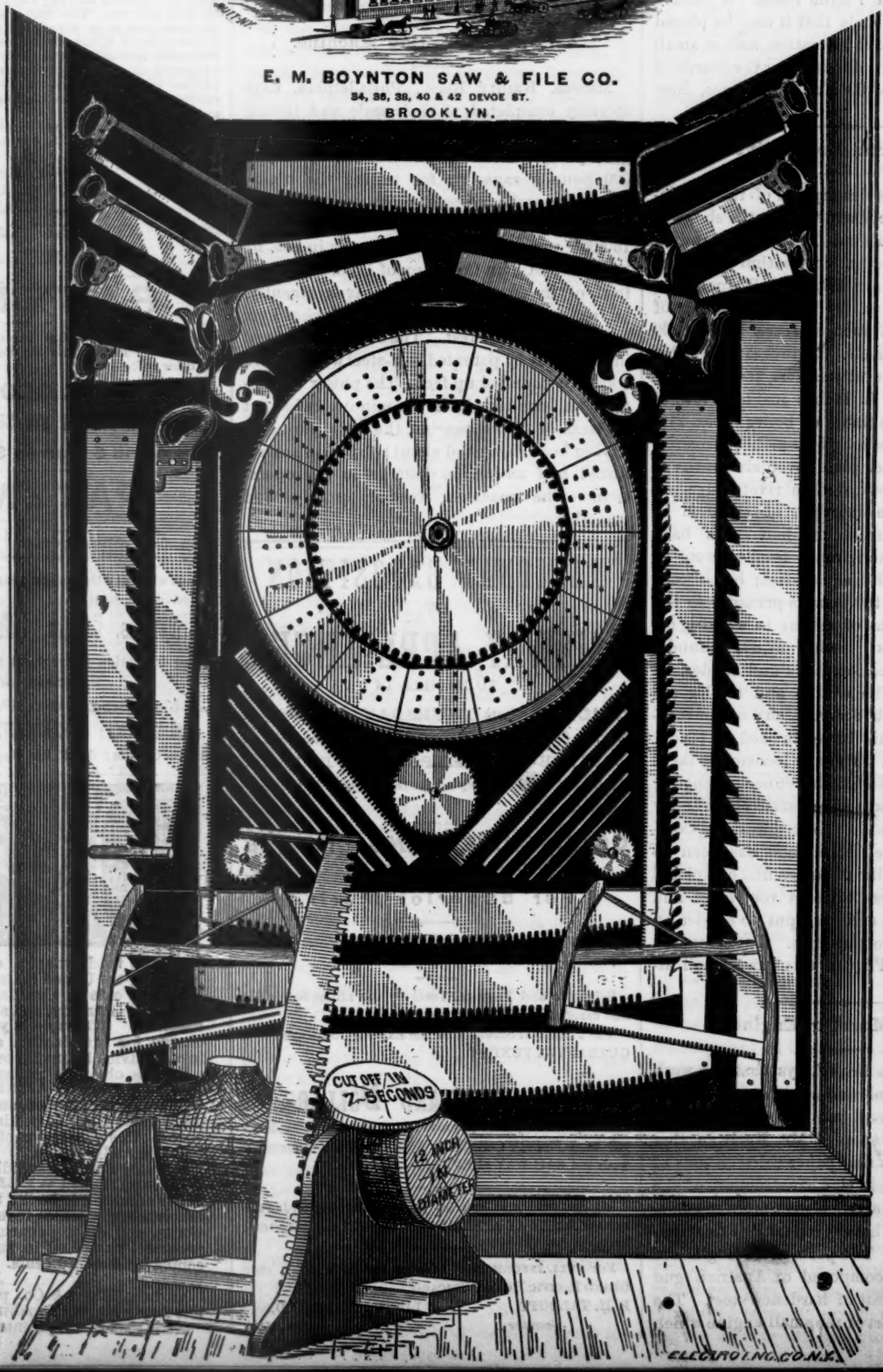
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